Birla Institute of Technology & Science, Pilani
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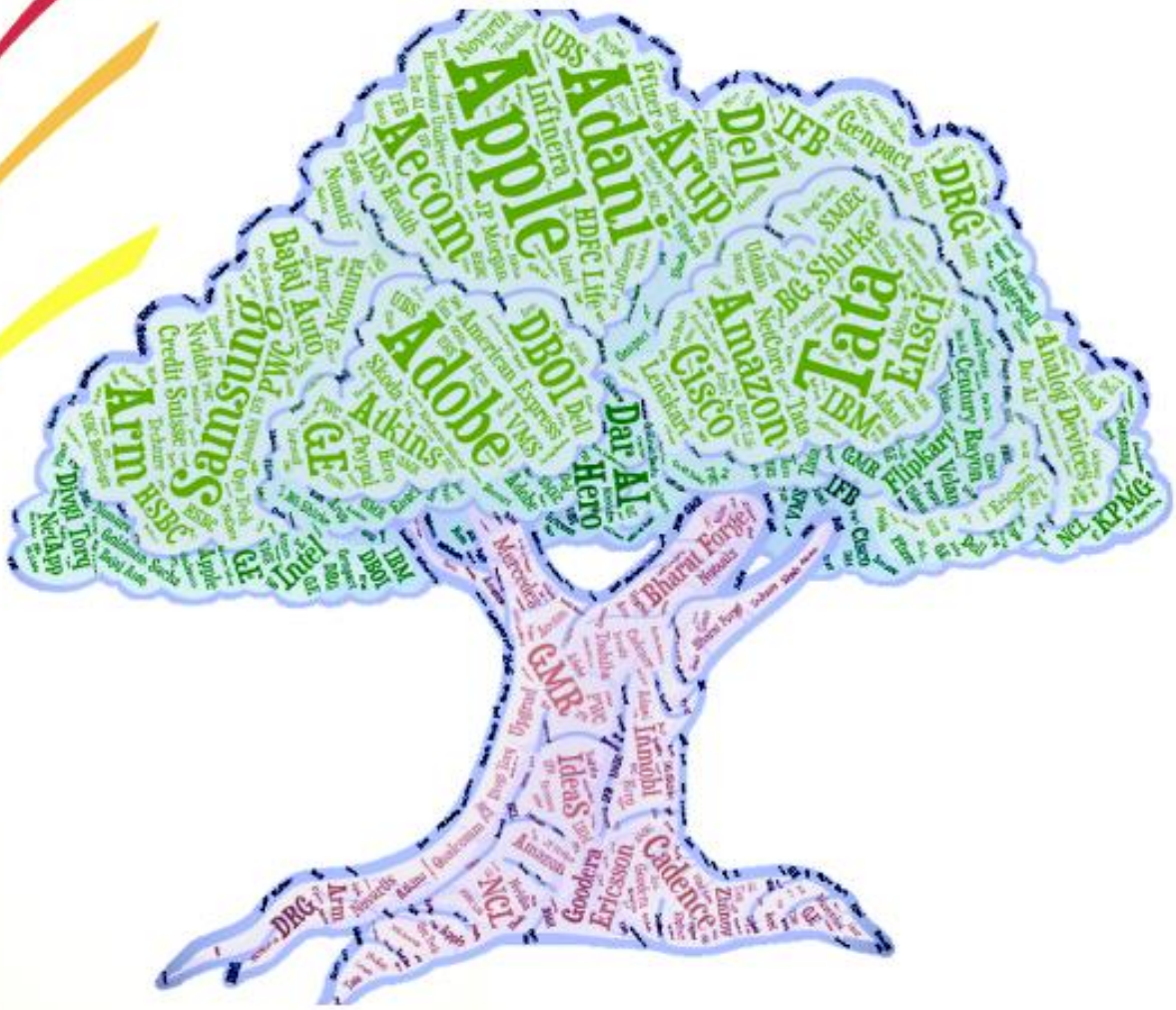
Practice School Division

PRACTICE SCHOOL - II

CHRONICLES



Publication Cell
- Practice School Division

From the Desk of the Editor

It is my great pleasure to bring forth the 12th edition of the PS-II Chronicles. This edition features over 700 articles from mentors, students and PS faculty sharing their experiences from the I Semester of 2021-2022. This huge increase in numbers are a testimony to the usefulness of the PS- II Chronicles and its increasing popularity.

The primary aim of the PS-II Chronicles is to record the overall PS-II experiences of all the stakeholders – the students, the PS faculty and the Industry mentors.

The objectives of this Chronicles are manifold

- Prospective PS-II students can get to know about the experiences of their seniors, currently at PS – thereby increasing awareness in the student community.
- Increasing awareness among faculty about the nature of work happening at various PS-II stations.
- Bring back the experiences gained at PS-II station into academics - making the curriculum more industry relevant.

I would like to thank everyone who has participated in this activity - the students, the industry mentors and the faculties for sharing their experiences. Thanks for making the 11th edition an even more bigger and better experiences.

I would also like to thank Prof. Arun Maity, Prof. S. Murugesan and Prof. Mahesh Kumar Hamirwasia for reviewing the articles. I would also extend my thanks to Mr. Om Prakash Singh Shekhawat, Mr. Varun Singh of the Practice School Division of BITS Pilani – Pilani Campus for their help in bringing out the edition of PS-II Chronicles.

I would be happy to receive any feedback regarding the Chronicles. Please feel free to email me at psd@pilani.bits-pilani.ac.in or at anil.gaikwad@pilani.bits-pilani.ac.in

Anil Gaikwad

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PS-II Station: Aditya Birla Capital – Non-Tech, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: RAHUL BHARADIA (2018A8PS0640H)

Student write-up

Short summary of work done during PS-II : I was involved in project management, testing and product enhancement of a personal loan website.

Tool used (Development tools - H/w, S/w): MS Visio,JIRA.

Objectives of the project: For any company to grow and expand, they need to launch new large scale projects where numerous teams like development, design, policy, marketing, etc. come into the picture, hence bringing in many people working under the same roof. Management of such projects is very essential to ensure a smooth workflow of activities. Therefore, project management is an essential component. Testing helps us understand how we can make the product better in the perspective of user. Adapting to new technology and Innovation is a must needed ingredient for any leading company. That's how all the components of this project are important for an organization.

Major learning outcomes: First exposure to the corporate world.
Learnt about corporate hierarchies and structure.
Gained in-depth knowledge of User Acceptance Testing.
Introduced to Agile methodology of project management.
Gained valuable insights on corporate hierarchies and professional communication.
Exposure to the world of financial and loan services.
Gained hands on experience with competitor analysis on different aspects.

Learnt how to coordinate with different working teams like development and policy hence gaining the essentials of project management.
Practical exposure on how to create business workflows using MS Visio.

Details of papers / patents: No such paper / patent.

Brief description of working environment, expectations from the company: The working environment was very nice. All the mentors and seniors were very good and helpful to me. It was a great experience. The expectations from the company was to give us right projects and corporate experience which is of great value to us.

Academic courses relevant to the project: No

PS-II Station: Aditya Birla Science & Technology Company Ltd., Mumbai

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: ANKIT SANGWAN (2018A1PS0767G)

Student write-up

Short summary of work done during PS-II: I had to find control weak acid generation in smelters. Investigations were done upon how, where and why weak acid is generated and what factors are mainly responsible for the same. Later on methods to reduce its formation and other control measures were suggested. Also, a simulation of whole plant was made in Aspen Plus, which was further used to get better understand the effect of smelter downtime on overall SAP performance.

Tool used (Development tools - H/w, S/w): Aspen Plus, Aspen Hysys, Aspen Dynamics.

Objectives of the project: Control weak acid generation in smelter and impact of smelter downtime on SAP performance.

Major learning outcomes: Got familiar with Aspen Plus used industry wide. It also helped me to get familiar with how stuff is actually done in MNCs.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: It was a work from home intership and all interactions were online. Everyone had a positive attitude and were all helpful in a way or two.

Academic courses relevant to the project: Yes, courses like Process Design Principles, etc were relevant to the project.

Name: SAKSHI GUPTA (2018A1PS0910P)

Student write-up

Short summary of work done during PS-II: I was asked to study the literature and work on finding the methods to improve the efficiency of the process.

Tool used (Development tools - H/w, S/w): Online

Objectives of the project: To increase the efficiency of the process.

Major learning outcomes: The entire Bayer process and its various factors.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was very good. People in the company were highly motivating and encouraged me to improve myself.

Academic courses relevant to the project: Separation process and heat transfer.

PS-II Station: Aerchain – Non-Tech, Bengaluru

Faculty

Name: Samir Kale

Student

Name: SRINITESH M (2017B5A41567H)

Student write-up

Short summary of work done during PS-II: Aerchain is an Enterprise application / platform powering procurement by connecting customers and suppliers. With digital procurement, purchase teams in various enterprises are able to efficiently restructure their purchase process to bring transparency and efficiency gains along with vendor intelligence.
My role here at Aerchain is APM Intern and as a part of the product team I worked closely with the founders, initial product team and major clients in developing the product. Few projects that I did are based on Analytics, Dashboards and Reports which provide visibility and insights on the business transactions for both customer and supplier.

Tool used (Development tools - H/w, S/w): Balsamiq, GoodData, G-Suite, Agile methodologies.

Objectives of the project: Product development.

Major learning outcomes: Product Management, Analytics, UI/UX.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment at Aerchain is amazing. There are no seniority or role hierarchy and we can speak our mind without any hesitation.

Academic courses relevant to the project: No

PS-II Station: Aerchain (Tech), Bengaluru

Faculty

Name: Febin A Vahab

Student

Name: BALIVADA PRANAV SAI (2017B4A41468H)

Student write-up

Short summary of work done during PS-II: I've majorly worked on back-end developement using PERN stack and API integration using SQS, S3 and axios. We were required to develop features according to customers' requirement. Aerchain is a B2B saas product working on simplifying procurement process of large scale enterprises.

Tool used (Development tools - H/w, S/w): Javascript, Node, Express, SQL, Sequelize, SQS, S3(AWS).

Objectives of the project: Developing new features in the product and modifications to existing features.

Major learning outcomes: Web development, API integration.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The environment around is really supportive and helpful. Everyday is a opportunity to learn.

Academic courses relevant to the project: Data Structures and Algorithms, Object Oriented Programming.

Name: PANGULURI JAYADEVA SAKETH (2018A4PS0654H)

Student write-up

Short summary of work done during PS-II: I was a frontend intern in the company. The product they are building is really interesting. Their platform automates the procurement processes. So, our job is to help them automate it in building the different kinds of platforms for different clients. I, along with other tech interns were explained how the procurement chain works, key terminologies, before the coding for it began. For the first month, we were asked to learn about the required tech stack, right from the basics i.e. HTML, CSS (since we were beginners) to React, Express etc. by doing a series of small projects like building a todo app etc. After that, we were allotted tasks on building some components of the platform for different clients. Since, it was a startup which was recently seeded, the work was Hectic. In terms of work and learning new material, I sort of developed a liking towards web development and the product that they are trying to build.

Tool used (Development tools - H/w, S/w): JavaScript, React, Redux, Express, PostgreSQL, Ant Design.
Objectives of the project: To build small components of the clients' platform.

Major learning outcomes: JavaScript, React.

Details of papers / patents: No

Brief description of working environment, expectations from the company: Since, it's a BITSIAN startup, one can find people of such mentality. If one is truly into web development and want to try their hand at the real-life projects, this can be the best-suited place.

Academic courses relevant to the project: No

PS-II Station: AgNext Technologies (New), Mohali

Faculty

Name: Suparna Chakraborty

Student

Name: DIVAKAR RAI (2018A1PS0058G)

Student write-up

Short summary of work done during PS-II: Developed functional module of Synergy Interval FS and tested it on the NIR data. Used PLSR as an algorithm to train, test and MAPE as the performance metrics. Developed functional module on Matlab as well and cross verified the results to that of Python module.

Tool used (Development tools - H/w, S/w): Python, Machine learning, Scikit-learn, Matlab.

Objectives of the project: Optimization of multiple feature selection techniques for NIR data used in rapid food quality screening.

Major learning outcomes: Improved the accuracy of the model by providing them a functional module with much less mean absolute percentage error value compared to existing feature selection techniques.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Despite being a remote internship, the team at Agnext ensured that I had very productive learning experience. My mentors were always available for queries and they were regularly in touch with me for updates. The HR and IT teams also ensured smooth progress of the work from home internship.

Academic courses relevant to the project: Machine learning with python, Data Visualization, Neural Networks.

PS-II Station: Airmeet (Business Development), Bengaluru

Faculty

Name: Annapoorna Gopal

Student

Name: SNEHASHISH CHOUDHARY (2017B1A20412P)

Student write-up

Short summary of work done during PS-II: Airmeet is new virtual events platform in the market which acts as a replacement to conventional video-call platforms like Zoom, Google Meet etc. Airmeet is currently focused on generating revenue through B2B via custom plans and pricing set as per the clients requirements.

My task was to assist the growth team with lead generation and cold email outreach, which was directly related to the revenue generating process of the company. Daily target for leads and calls were set. The general workflow was:

1. Generate leads
2. Outreach via email
3. Set a demo call in case of positive response; remove from mailing list if negative
4. After demo call, discuss pricing
5. Proceed to close the deal if the client accepts pricing; negotiate with discounts if client objects to pricing
6. If client still does not like the pricing, mark deal as "lost" but keep in touch with them

Tool used (Development tools - H/w, S/w): Apollo for generating leads, email automation, maintaining activity records, email tracking, LinkedIn, Google, Bing to look for companies, events etc. for reaching out to Excel for keeping leads database, word and powerpoint for reports.

Objectives of the project: To assist the growth team with lead generation and cold email outreach, which was directly related to the revenue generating process of the company.

Major learning outcomes: Email outreach / outbound is a highly effective way to bring in new clients as the first point of outreach is awareness i.e. the prospect is notified about the product and how it can be useful for their company. Following up after the initial outreach is also important as it generates interest in the prospect about the product i.e. they are requested to schedule a call with a representative in case they are interested.Also, email contents should be tuned and personalized in order to avoid being reported as spam and subsequently the email account being banned.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: NA

Academic courses relevant to the project: Technical report writing.

Name: AGRAWAL ROHAN RATAN (2017B1AB1045P)

Student write-up

Short summary of work done during PS-II: Initially, objective was to create a database using Python for POC for various event listed on event listing sites. Then, later in Founder's office, the work was based on to create marketing strategies based on the past data and worked on crucial projects that had to be executed in the company.

Tool used (Development tools - H/w, S/w): Python, Fullstory, Hubspot, Tableau, Chargebee.

Objectives of the project: Building a model for web data scrapping and free usage analysis.

Major learning outcomes: Initially while making the database, learnt new Python libraries to scrape contacts to approach them. Later, working in Founders team, gave a learning of how and what are the strategy and decisions are made to make a project to be executed.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The PS was in online mode, so there was no login or logout time, the environment was good but working in online mode you can expect work at any time but on other hand have the flexibility to manage your households.

Academic courses relevant to the project: NNFL (helped me in using Python).

Name: AMADHYA JAIN (2017B4A11023G)

Student write-up

Short summary of work done during PS-II: Worked as a Founder's office intern, developed go-to market strategies, analysed business performance and carried out market and industry research in order to understand the product-value propositions with live customers to arrive at product-market fit.

Additionally, my work encompassed documenting and re-documenting the ongoing projects in the company. Working in the Founder's office meant that I get to interact with lot of different stakeholder's across the company, execute founder's wishes and lead me to develop an understanding of key-business metrics and an eye for numbers.

Tool used (Development tools - H/w, S/w): Tableau, Hubspot, Apollo, Chargebee, Advanced Excel.

Objectives of the project: Develop go-to market strategies, analyse performance of the business, carry out market research and arrive at correct product-market fit for product-value propositions.

Major learning outcomes: I've also learnt how to make and maintain revenue cohorts, key business metrics and learnt about different promotional strategies that can be used for pitching a B2B SaaS product. In addition to this I've also had the opportunity to learn about the market segmentation, the changing outlook of online-first platforms and the way to classify different types of events.

After maintaining and contributing to countless spreadsheets I've developed an eye for details and numbers and I've learnt how to perform common size analysis (analysing all metrics as a percentage of a base figure), trend analysis (analysing change in metrics over a period of time), unit analysis (example- how many registered participants per Airmeet), horizontal and vertical analysis.

Working as an extension of the CEO office, often involves collaborating with different departments across the company, so there's an obvious opportunity to really hone your soft skills at this role.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Airmeet doesn't have offices and everyone works remotely. The company recognises how working remotely can cause fatigue and stress amongst the employees and the HR team tries to address this with fun activities (there's even a Happiness Manager). Primarily, the company uses Slack and Google workspaces for communication.
The company expectations are quite modest, they expect you to work efficiently and to bring out any insights for any work done. Sometimes, when a key project is taken up at the company, the working hours could be long and exhausting, though on usual days this is not the case.

Academic courses relevant to the project: Principles of Economics, Technical Report Writing.

PS-II Station: Airmeet, Bengaluru

Faculty

Name: Annapoorna Gopal

Student

Name: AYUSH KUMAR (2017B1A20382P)

Student write-up

Short summary of work done during PS-II: My work as a BDR (Business Development Representative) mainly focused on bringing in touch the outside contacts with Airmeet. With different methods of outreach, my task was to focus of domains, personal of the recipients of outbound and make them agree to attend a demo call with my manager (also a product manager) and which would help to proceed in sealing deal between AIrmeet and the client's organisation.

Tool used (Development tools - H/w, S/w): Hubspot, LinkedIn, Apollo, MS Excel.

Objectives of the project: To reach out to potential clients in the asian pacific region and get them in touch with AIrmeet.

Major learning outcomes: Improved soft skills, better use of MS excel, learnt about Hubspot, Apollo and LinkedIn.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Airmeet is a permanent work from home company, which means the infrastructure is good enough to work even before pandemic hit. People in the company are very interactive. Slack is the main tool of communication between people in the Airmeet. Expectation from the company would be to more SDE related roles for PS2.

Academic courses relevant to the project: NA

Name: BORSE AYUSH KISHOR (2017B3A10337G)

Student write-up

Short summary of work done during PS-II: Learnt CRM systems. Analyzed sales calls and identified gaps in pitches. Did competitor research and pitches. Worked with the product team to develop strategies and the product.

Tool used (Development tools - H/w, S/w): Figma, Canvas, Gong, Wingman, Hubspot, MindTickle.

Objectives of the project: Working with sales and marketing leadership to develop, execute, optimize and assess enablement initiatives.

Major Learning Outcomes: Functioning of a start-up. The detailed sales procedure, frameworks and tactics used. Market and client research. Marketing and Sales of a B2B SaaS company. Content curation for sales teams according to target customer, competition.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Remote-first company. Don't have an office. Usually 10-6 if you want to do collaborative work. Half of the times in the sales enablement team, you have to work alone.

Academic courses relevant to the project: POM, TRW.

Name: YOGYATA SOMANI (2017B3A40595P)

Student write-up

Short summary of work done during PS-II: The projects mainly focus on revenue growth and helping founders with their passion projects. The few projects that the team has worked on in the last six months include G2 reviews in Q2, re-defining classification, L1 category analysis, self serve analysis and social webinar analysis. All these projects are focused on organizing and building robust analytics dashboards and template dashboards for future analysis. These projects are meant to streamline revenue growth efforts with the company entering a phase of revenue focus and growth being a top priority.

Tool used (Development tools - H/w, S/w): Hubspot, Tableau, Excel, Powerpoint, Metabase, Chargebee.

Objectives of the project: 1. Work directly with the Founders to solve key product problems and develop new revenue channels 2. Support the Founder's office team to build and establish powerful business and data partnerships that can drive the growth of our products 3. Carry out

market and industry research and iterate on product-value propositions with live customers to arrive at product-market fit 4. Assist in building go-to-market strategies in different regions.

Major learning outcomes: Learnt about various analysis such as cohorts, forecasting, retention, key metrics, revenue growth which is necessary for any generalist, product or finance roles.
Improved on soft skills like communication, leadership and team-work while interacting with the team and with other stakeholders within the company.
Learnt how to conduct industry and market research for various customer segments or for the virtual events industry for stakeholder presentations or investor pitches.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Warm and welcoming work environment, with promised learning opportunities. Average work day is about 10-12 hours in Founder's office, normally between 10 a.m. to 10 p.m., so can become slightly overwhelming. Requires high ownership and accountability. The team is very goal oriented and focused.

Academic courses relevant to the project: Principles of Economics, Principles of Management.

Name: ZAIN ZAFAR (2018A1PS0619G)

Student write-up

Short summary of work done during PS-II: I was placed in the Revenue Operations and Sales Support division. The work mostly involved chalking out a plan to maximise the revenues by cutting down on product costs while at the same time, not compromising on the product quality. To strike this perfect balance, a thorough analysis of the deals closed / lost was carried out by the process of internal documentation and level categorisation. From time to time, certain research projects were taken up ascertaining to a particular customer segment which helped in identifying

certain long-term trends proving instrumental to the company's visions and further strategies. Our work also proved to be much needed support to the business development and the sales representative team who could infer feedbacks from our analyses and bring about the necessary changes in their pitchings and workings.

Tool used (Development tools - H/w, S/w): Hubspot, Advanced Sheet Scripting, Gong, Wingman, Slack.

Objectives of the project: Suggesting strategies via analysis reports to maximise the company's revenues and minimising the input cost.

Major learning outcomes: Effective corporate communication, time management, CRM usage, connecting with office executives of several regions (APAC, NAM, EMEA, LATAM etc), internal documentation process, level categorisation and parametrization, sales funnel analysis.

Details of papers / patents: Identifying key metrics of inbound and outbound sales, media segment categorization.

Brief description of working environment, expectations from the company: A very friendly environment suiting perfectly to the work from home needs. The industry mentor was supportive and helpful enough to make the entire onboarding process hassle-free. Our entire office was based in a virtual workspace provided by the company's in-built platform and tools. A bright road ahead for this startup which has gotten a much needed boom during the covid era (virtual events sector).

Academic courses relevant to the project: To some extent. Being a non-core sector, courses such as POE, DRM, TRW proved to be of much help.

Name: SHORYA SAINI (2018A1PS0925G)

Student write-up

Short summary of work done during PS-II: Connected with stakeholders from various teams from time to time to provide them with the required data from the database. Closely worked with the product team to set-up Tableau dashboards for new features introduced from time to time. Helped the tech support team as well with certain complex SQL queries.
Tool used (Development tools - H/w, S/w): SQL, Tableau, Excel.

Objectives of the project: Provide data driven insights to multiple teams.

Major learning outcomes: SQL, Tableau, Advance Excel.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment especially in my team. Enough time was given to learn things. The mentors were very helpful during the learning process. All you need to do is ask questions. You need to be proactive to take up work. Permanent work from home setup. They use their own platform i.e. Airmeet as their office.

Academic courses relevant to the project: NA

Name: RAHUL JINDAL (2018A4PS0402G)

Student write-up

Short summary of work done during PS-II: I worked with the Growth team. I was basically responsible for increasing Airmeet's user base in Singapore, Indonesia and Thailand. I reached out to prospects via cold email.

Tool used (Development tools - H/w, S/w): Hubspot, Apollo.

Objectives of the project: Increase Airmeet's User base in Singapore, Indonesia and Thailand.

Major learning outcomes: Cold Email.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company is completely remote.

Academic courses relevant to the project: None

PS-II Station: All Rounder Cup (Melio) - Non-Tech, Bengaluru

Faculty

Name: Raghuraman S

Student

Name: DIVYA LAKSHMI (2018A5PS0969P)

Student write-up

Short summary of work done during PS-II: While I was interning at Allrounder Cup, I got an opportunity to own the product completely and gained ability to manage projects as well. I learnt a lot from my mentors in this span of 6 months. I found analyzing and understanding our target users very important in helping me enhance different user flows and understanding user behavior. I thought this process of product management required the knowledge of management concepts and technical skills like Postman, Figma helped me to communicate easily with the designers and developers and data analysis helped me understand how to introduce features driving in more acquisition, engagement and retention.

Tool used (Development tools - H/w, S/w): Figma, Shopify, SQL,

Objectives of the project: Web and Mobile Application (discovery to launch)

Major learning outcomes: First experience of launching a product and end to end ownership of the product.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The founders of this company met while building Swiggy. Overall, it provides a very relaxed environment with a great learning curve. The interns are given the same respect and responsibilities as the fulltime employees. Thus, you are also held accountable for your tasks.

Academic courses relevant to the project: Professional Ethics, Venture Team development, Creating leading entrepreneurial organizational.

PS-II Station: All Rounder Cup (Melio), Bengaluru

Faculty

Name: Y V K Ravi Kumar

Student

Name: SURYA SUMANTH MEESALA (2017A7PS0119P)

Student write-up

Short summary of work done during PS-II: Creating scripts for automating the daily tasks of the organization from the time a registration comes through shopify, sending them order confirmation messages, sending them email and whatsapp communications which includes the zoom link for their competition meeting which is created through zoom api integration with google

appscripts. Sending daily communications to the registered parent / child via emails which are being automated through scripts and the emails are sent through AWS SES which was setup to ease and speedup the process as thousands of emails are being sent out everyday.

Tool used (Development tools - H/w, S/w): Google Appscripts, Google Spreadsheets, Zoom Developer Tools, WhatsApp Business API through freshdesk, Godaddy webserver hosting, Amazon Web Services, AWS SES (Amazon Web Services - Simple Email Service).

Objectives of the project: Automation of the daily tasks.

Major learning outcomes: Javascript, Google Appscripts, AWS setup and various API Integrations into Google Appscripts.

Details of papers / patents: None

Brief description of working environment, expectations from the company: All Rounder Cup (previously Melio) is a startup based in bengaluru conducting online quizzes and competitions for children in classes 1-10. The companies database was small and they were using google spreadsheets for their database and now they are shifting it to AWS RDS (Amazon Web Services - Relational Database Service) as their customer base increased. I tried to do everything on my own, whenever I got stuck, I got help from others working with this company like marmeto and appycodes. The company is exploring various options and it's goal is to become No. 1 e-competitions platform in India. The company is trying out new models every few weeks to try and increase their customer base.

Academic courses relevant to the project: Computer Programming, DSA, OOP, Discrete Mathematics, Computer Networks, Principles of Programming Languages.

Name: PAVAN GAUTAM SARAVANAN (2018A3PS1007G)

Student write-up

Short summary of work done during PS-II: Tech-ops, Google workspace automation.

Tool used (Development tools - H/w, S/w): JavaScript, Google Apps Script.

Objectives of the project: Automation of several tasks previously done manually by company employees.

Major learning outcomes: Automation

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very approachable seniors, workload and working times heavily varies based on tasks to do. Tasks given have strict but manageable deadlines.

Academic courses relevant to the project: OOP, Computer Programming.

PS-II Station: AlmaConnect, Gurugram

Faculty

Name: Mahesh K Hamirwasia

Student

Name: YASH GUPTA (2017B4A20687P)

Student write-up

Short summary of work done during PS-II: Management of business operations for international sales. Building a business cycle for sales operations. Handling relations prospective clients.

Tool used (Development tools - H/w, S/w): Excel, Figma, Miro.

Objectives of the project: Relationship management for International clients or prospects.

Major learning outcomes: Improved professional communication skills, understanding of business operations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is friendly, good experience.

Academic courses relevant to the project: NA

Name: SANKET MITTAL (2017B5A10680P)

Student write-up

Short summary of work done during PS-II: I was a business development intern and was given with repetitive tasks such as editing job tickets and handling mails along with cold calling candidates for other services provided on the platform.

Tool used (Development tools - H/w, S/w): None

Objectives of the project: Jobs Module

Major learning outcomes: Communication skills

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is good.

Academic courses relevant to the project: None

Name: SULAKSH SWAMI (2018A1PS0083G)

Student write-up

Short summary of work done during PS-II: I carried out three responsibilities. Firstly, I cleansed, standardized and deduplicated college databases using R to onboard new clients. Secondly, I monitored web traffic metrics to identify new media sources to augment the AlmaNews product. Thirdly, I helped improve the efficiency of the company's news filtering algorithm.

Tool used (Development tools - H/w, S/w): R, Similarweb.

Objectives of the project: Maintenance and improvement of the AlmaNews product.

Major learning outcomes: I improved my data wrangling skills and was introduced to the field of web analytics.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was friendly and cooperative. I didn't just meet the company's expectations regarding my default duties, I went beyond that and carried out additional responsibilities such as data cleansing.

Academic courses relevant to the project: None

PS-II Station: Amazon - Machine Learning, Hyderabad

Faculty

Name: Seetha Parameswaran

Student

Name: SHENDE VALLARI VIVEK (2017B1A70699G)

Student write-up

Short summary of work done during PS-II: My project involved implementing and comparing recommender systems such as Collaborative Filtering, Matrix Factorization, Neural Collaborative Filtering and Neural Factorization Machines. We did a literature review to survey the possible recommender systems suitable for the use-case, presented our design to the team, implemented and trained the models.

Tool used (Development tools - H/w, S/w): AWS EC2, AWS S3, Python, SQL.

Objectives of the project: To build a recommender system for production environments.

Major learning outcomes: Presentation and communication skills, Amazon web services, Recommender systems, Machine Learning, PyTorch.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The whole team was very supportive throughout the internship. We had regular fun Friday events with the team to encourage team bonding even in the online mode. I had regular interactions with manager and mentor to discuss progress and blockers, if any. My manager and mentor helped me wherever I faced problems. Overall, it was a very positive working environment.

Academic courses relevant to the project: Machine Learning, Artificial Intelligence, Object Oriented Programming.

Name: NIKITA SADHNANI (2017B1AA0693G)

Student write-up

Short summary of work done during PS-II: The goal of the project is to improve the coverage and customer retention for certain 3rd party services offered on various Amazon channels such as on Alexa and Amazon Mobile Shopping App. The services are of two types, one with expiration date and the other with flexible period and no hard expiry date that need to be renewed at regular intervals.

Customers are prone to churn from Amazon channels and utilise its competitors' platforms to avail those 3rd party services, owing to the impact of psychosocial and environmental determinants, including changes of market, promotion, new product introduction, reduced switching costs and competitors' strategies. Analysing the previous purchase date and renewal intervals on a customer level will help Amazon identify the ideal time to reach out to the customers for those services.

Developed classification models for customers based on their previous purchase date for services that have expiry date to improve the retention metrics. Forecasted the usage intervals on a customer level for services that do not have expiry date for improving the coverage as well as retention of customers.

Tool used (Development tools - H/w, S/w): AWS Sagemaker, Jupyter, EC2, SQL Workbench, Internal Tools.

Objectives of the project: Improving the CTR (Clickthrough Rate) for the notification of 3rd party services by personalising the prediction of next purchase / renewal of these services on a customer level. CTR can be improved by improving the coverage i.e. customer acquisition and retention of the existing customer base. In order to achieve this goal, ML techniques have been utilised separately for the two kinds of services; i.e. services with / without an expiry date.

Major learning outcomes: ML, DL, Time Series and AWS services (Sage-maker, AutoGluon, DeepAR, S3, EC2), Big Data Libraries (Vaex, Dask), Sql queries.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment: My team (devices organisation) had one of the best work-life balance and cordial environment. Very conducive environment for learning new things outside of your domain. Supportive manager and mentor. One of the best working environments.However, these factors depend a lot on the business vertical of your team/org.
Expectations from the company:
1. Plethora of opportunities to grow your technical skills (through internal conferences, courses, workshops, seminars, career portals)
2. Mentor-Mentee platform for networking and career growth.

Academic courses relevant to the project: Not taken any Coding/ML electives in university; Had prior knowledge and experience in ML, DL, statistical Time Series and Deep Learning based Time Series Forecasting. Being strong with fundamentals and having awareness of breadth of ML techniques.

Name: RACHIT MAYUR SHAH (2018A3PS0300P)

Student write-up

Short summary of work done during PS-II: Worked on improving the zero-shot performance of multilingual language models on unseen languages over various downstream NLP tasks such as NER, sentence retrieval, etc. I primarily worked with XLM based language model. Implemented weight decay and other methods in the continual learning stage to achieve the goal.

Tool used (Development tools - H/w, S/w): PyTorch, Huggingface library, AWS EC2.

Objectives of the project: Improving the performance of multilingual language models on unseen languages.

Major learning outcomes: Learnt about various NLP models in the multilingual domain and read a lot of research papers, exposure to industry research.
Details of papers / patents: N/A (planning for a paper in NAACL next year with data from further experiments).

Brief description of working environment, expectations from the company: Work environment is really good, flexible work timings, highly experienced and knowledgeable team, everyone is really helpful. At the same time the company expects you to take ownership of the project and get things done.

Academic courses relevant to the project: Machine learning, Information retrieval.

Name: TARIGOPULA PRANAY (2018A7PS0237H)

Student write-up

Short summary of work done during PS-II: Our task for PS-2 was to build a POC recommender system model that could serve improved recommendations for an Amazon specific use case. We started out with literature review and shortlisted a few models that suited our needs. Then we implemented these models and tested them out on multiple datasets. The results were then presented to other scientists at Amazon.

Tool used (Development tools - H/w, S/w): Python & ML Libraries (NumPy, Sklearn, PyTorch etc), SQL, AWS EC2, S3, Sagemaker.

Objectives of the project: Building a POC recommender system model.

Major learning outcomes: AWS services, SDE workflow, Big Data tech, writing clean code and code review processes.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The internship was WFH and my team members were mostly SDEs so we followed the usual SCRUM procedures throughout the internship duration. The expectation from my project mentor was to incorporate the results of the best models into production by the end of the internship duration.

Academic courses relevant to the project: DS Minor courses like FoDS, ML and DL helped me a lot during the project.

PS-II Station: American Express - AI Labs, Gurugram

Faculty

Name: Ashish Narang

Student

Name: ASHUTOSH SHARMA (2018A7PS0179G)

Student write-up

Short summary of work done during PS-II: Improving multiclass classification model's accuracy by constructing novel features. Algorithms applied to construct recurrent information about customers transactions. Techniques tried to include non temporal features with sequence data, and similarity techniques used. Recurrent neural network (bi-directional LSTM) model utilized on transactions for prediction.

Tool used (Development tools - H/w, S/w): Python, Jupyter Notebook, PySpark, Excel, NLP, RNN, MLS, keras.

Objectives of the project: Feature engineering of business related features to increase the accuracy of model in production as a proof of concept.
Major learning outcomes: Machine Learning, Explainability of ml models.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very good work culture and great manager and mentors. Interns are treated as full time employees. Interns have complete responsibility of their projects and get to try new ideas.

Academic courses relevant to the project: Machine Learning, Data structures and Algorithms.

Name: SIDDHANT KULKARNI (2018A7PS0185H)

Student write-up

Short summary of work done during PS-II: Worked on explainability of AI models, NLP (BERT). Framework devloped to understand the feature importances and priliminary framework to identify possible flaws present in the complex AI models.

Tool used (Development tools - H/w, S/w): Pytorch, Python, Develop new tools & framework, Cloud Computing, Servers, Linux, Anaconda, Jupyter Lab.

Objectives of the project: Explainable AI: Devlope a framework for understanding the DL models better.

Major learning outcomes: Team work, research work, collaboration, corporate work culture.

Details of papers / patents: Patent in progress on the framework worked on by the team.

Brief description of working environment, expectations from the company: We have a manager assigned to each intern. The work was meant to be done in teams, for us it was 8 fulltimers & 2 interns, We had 4 meetings / week, one of them was informal where we discuss about some new technology or have a fun activity. It would be a lot fun when it'd be on site. The work was interesting and since it was a research oriented one, there wasn't strict deadlines. Overall great work & environment, you will not regret working here.

Academic courses relevant to the project: IR, NLP, Deep Learning, ML, Python.

Name: NITIN GOPALA KRISHNA SONTINENI (2018A7PS0262H)

Student write-up

Short summary of work done during PS-II: Mostly I worked on the product related role as an intern.

Tool used (Development tools - H/w, S/w): PySpark, Hive.

Objectives of the project: Building Model Retraining/Continuous Learning framework.

Major learning outcomes: MLOps concepts understanding.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It's a great place to work as an intern if one is interested in product / business analyst related roles.

Academic courses relevant to the project: FODS, ML, DL.

Name: DANTULURI SAIRAJU (2018A7PS0306H)

Student write-up

Short summary of work done during PS-II: My role is more of a product role. I had the opportunity to work on 3 projects -

1. Benchmarking platforms
2. Comparing descriptions to get a similarity score and
3. Building a dashboard to get insights from logs

Tool used (Development tools - H/w, S/w): Elasticsearch, kibana, word2Vec, fasttext, BERT, transformer...etc

Objectives of the project: 1. Benchmarking similar platforms - what features our platform is lacking from others and how useful it is to build the same features in our platform as well. 2. Comparing descriptions - find potential duplicate variables based on their description. 3. Insights from logs - design and implement metrics that evaluate the working and efficiency of working capabilities.

Major learning outcomes: Exposure to a lot of NLP algorithms like BERT and other machine learning techniques like model retraining, fine-tuning and transfer learning.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is really friendly. Being a product department the WLB is really good. The company expects you to work at par with full time employees and never considers you as an intern and that gives a really good idea of how your full time life in the company would be.

Academic courses relevant to the project: Deep learning, Machine learning and foundations of data science were really helpful. The internship is more on AI/ML side.

Name: V P KIRAN (2018A7PS0413G)

Student write-up

Short summary of work done during PS-II: Explored the area of explainability for models dealing with unstructured data. Explored the application of Expl. techniques and methods of evaluation. Worked on a framework aimed to automate model diagnosis and improvement using Expl.

Tool used (Development tools - H/w, S/w): BERT, SOTA XAI techniques, Standard libraries such as Pytorch etc.

Objectives of the project: To explore the applicability and suitability of the established XAI techniques to unstructured data models.

Major learning outcomes: Gained exposure to the area of explainability in ML, exposure to NLP paradigms such as transfer learning.

Details of papers / patents: A framework for which the patent is in the drafting stage.

Brief description of working environment, expectations from the company: The entire internship right from the onboarding till the final week can be summed up in a single word -smooth. The mentors put in a lot of effort to balance the workload but still maintain a sense of ownership / responsibility similar to that of a FTE. At no point does the work seem overwhelming but the knowledge gained was substantial at the end of the internship. Great work culture, thoroughly enjoyed each interaction with both team members as well as higher leadership.

Academic courses relevant to the project: AI, ML, DL, NLP.

Name: CHETLAPALLI VENKATA SATYA SAI CHAITANYA (2018AAPS0393H)

Student write-up

Short summary of work done during PS-II: I have built an application Automated report of data resources. It has a critical role in sustaining the company's work environment. It has helped DRM fix memory inefficiencies by generating a report of data resources and identifying causes causing inefficiencies.

Tool used (Development tools - H/w, S/w): Kibana, MLS, KIbana DEV, Elasticsearch.

Objectives of the project: To create a stable automated report for the data resource management department.

Major learning outcomes: Introduced to unstructured data, learnt to use Kibana, Elasticsearch API and Kibana Dev tools, developing and debugging the code.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment, great interactions in friendly nature and great opportunities to explore in tech.

Academic courses relevant to the project: NA

PS-II Station: American Express - Credit & Fraud Risk (Capabilities), Gurugram

Faculty

Name: Ashish Narang

Student

Name: AAKANKSHA SINGH (2018A3PS0354H)

Student write-up

Short summary of work done during PS-II: To free up memory unnecessarily occupied by redundant variables, my team and I leveraged machine learning, SQL and big data processing tools such as PySpark to create a model that successfully finds the correlation matrix for all the variables using the entire database. From this correlation matrix, variables with a very high correlation can be segregated and further analyzed for decommissioning. This also enabled us to create proper documentation of all variables in the database, which can be used for future reference.

Tool used (Development tools - H/w, S/w): PySpark, Hive, SQL, Machine Learning, Excel.

Objectives of the project: Identify similar attributes and retain one with standardized and globalized definition and create a self-serve document for partners capturing the categorization. Also, enhance the code of the Machine Learning model so that it can run on the entire database.

Major learning outcomes: PySpark, Hive, SQL, Python, Pandas, Dask, Machine Learning, Excel

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was very collaborative and encouraging. Creative thinking to solve problems using the latest technology was encouraged.There's a great emphasis on upskilling and personal development. Overall, an excellent place to work.

Academic courses relevant to the project: Computer Programming, Probability and Statistics.

Name: APOORV SINGH (2018A7PS0136G)

Student write-up

Short summary of work done during PS-II: Automated and scheduled recurring data analysis tasks carried out by the Risk Products and Data Strategy team. Also implemented a tracking and failure-proofing system for the aforementioned automated system.

Tool used (Development tools - H/w, S/w): Big Data, Python, PySpark, MLS, bash scripting.

Objectives of the project: Reduce the bandwidth consumption of analysts spent in doing the recurring data quality checks.

Major learning outcomes: Learnt how to turn a manual analytical process flow into self sufficient code. Gained understanding of what working in a corporate environment entails.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Intern-friendly. Interns are treated as full-time employee and every team member is eager to help you. Work hours can be unconventional. Managers are extremely friendly.

Academic courses relevant to the project: DBMS, CP.

Name: CHINTHAKINDI SIDHARTHA RAMAN (2018A7PS0283H)

Student write-up

Short summary of work done during PS-II: My project is migrating a process from SAS to Python. This involves migrating, automating and globalizing the process. Migrating is converting the code and logics from SAS to python (pyspark). After migrating, all the sub-process in the main process are connected to automatically generate reports. After automating the process in Python, it is globalized to run for all the markets using the process.

Tool used (Development tools - H/w, S/w): Python, Pandas, PySpark, Hive, SAS.

Objectives of the project: To develop an automated and globalized capability that imputes the unknown data with the use of internally available data.

Major learning outcomes: Introduction to big data, Pyspark, hadoop, SAS and Hive.
Presentation and office skills, real time use of machine learning algorithms, planning and managing project deadlines.

Details of papers / patents: None

Brief description of working environment, expectations from the company: American express has very good work culture and environment. All the Amex policies help in having a great work-life balance. Most importantly all projects have good deadlines to complete them without any rush.

Academic courses relevant to the project: Data Mining, Machine Learning, Foundations of data science.

Name: DHARAPURAM ADITYA RAMKUMAR (2018AAPS0336H)

Student write-up

Short summary of work done during PS-II: Project was mainly focused on migration of data and processes from the mainframe systems to the new big data platform. Variables used in prediction models were to be coded by us into the new system using customer level information.

Tool used (Development tools - H/w, S/w): HIVE query language, SAS.

Objectives of the project: Migrate all the required variables from the old mainframe system to the new cornerstone big data platform by getting rid of redundant variables, data and clubbing together correlated variables across different markets.

Major learning outcomes: Technical learnings majorly include - practical application of using HQL/SQL on tables containing big data to perform data manipulation and analysis to solve the business problem.
Soft skills include - Understanding how corporates work and collaborating with different teams to achieve the goal. Spreadsheet and presentation skills learnt were also very useful.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Right from day 1, an intern is treated just like any other full time employee. But the team is very supportive in the beginning and allows you to take your own time to try to understand the system and other technical aspects that might be required for the project. It never felt like they were extracting work out of an intern but rather felt like they were nurturing the intern in hope for us to learn something new and start contributing when we have the full understanding of the main business problem and solution adopted in the project. They have very reasonable deadlines provided one works diligently. They do not expect anyone to work overtime as such and are not even too strict about work timings as long as you finish your task for the day or week. My mentor had organized a call daily with our team in order to help us and guide us whenever we got stuck and would always be ready to help when I had a doubt. Overall, it was a very positive experience and a great place to learn before you kick-start your career.

Academic courses relevant to the project: DBMS.

PS-II Station: Amica Financial Technologies Pvt. Ltd., (Jupiter), Mumbai

Faculty

Name: Vimal S P

Student

Name: JATIN JAIN (2018A7PS0276P)

Student write-up

Short summary of work done during PS-II: I worked on the communication platform. Communications platform is managed by the data science team. This platform has various components that are used by Jupiter to carry various communications with their customers. In the beginning I read various codes and made Grafana dashboards. Then I worked on making the new backend of comms-ui, so that template testing can be fast. Then I worked on making the lambda that could do various email communications based on the vendor. After that I worked on Account Metadata Service. It is part of a large feature called Account Aggregator, which will be used to store the transactions and balances of users for all the accounts outside Jupiter.

Tool used (Development tools - H/w, S/w): IntelliJ IDEA, Postman, Grafana, AWS, Git, GitHub.

Objectives of the project: To update various projects of communicaiton platform and to develop a service for storing account information.

Major learning outcomes: Writing good quality code, hands on experience, Scala Play framework, AWS.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Since Jupiter is a startup related to finance domain, the work here is done with a fast pace. Everyone here is talented, well experienced and passionate about their area of work. We as interns are also considered as full-time employees and have to take the ownership of work. Working environment is healthy and everyone is ready to help.

Academic courses relevant to the project: Object Oriented Programming.

PS-II Station: ANS Commerce - Business Growth & Product, Gurugram

Faculty

Name: Sandeep Kayastha

Student

Name: HARSH SHARMA (2018A1PS0007H)

Student write-up

Short summary of work done during PS-II: I started my internship with works like generating cdn links, observing the flow, getting familiar with the different domains they are providing as an E-commerce solutions like operation management, brandstore management and performance marketing. Then after few months, I started getting my brands to handle like domesticappliances Philips where i would be responsible for any task related to theses domains be it performance marketing or brand store.

Tool used (Development tools - H/w, S/w): GTM, GSC, GA, Gads, Excel, FB Manager, Kartify.

Objectives of the project: To provide and make the process of full stack E-commerce service solution more flexible and efficient.

Major learning outcomes: Performance Marketing, Brandstore management, Warehouse management, Data analysis.

Details of papers /patents: I started my internship with works like generating cdn links, observing the flow, getting familiar with the different domains they are providing as an E-commerce solutions like operation management, brandstore management and performance marketing.

Brief description of working environment, expectations from the company: Work environment is like that of any startups it's very engaging and kind of work heavy job. You always have to be at your best every single day to keep up. We learnt here a lot though being stable and together in all the chaos around.

Academic courses relevant to the project: TRW.

Name: SIGILIPELLI LAKSHMI TARUN (2018A8PS0893P)

Student write-up

Short summary of work done during PS-II: I have done creating a shipping provider part on the website where we can add the shipping providers and in it there is a mapping courier option where the we map the couriers by providing the required credentials.I have done creating a pin code part on the website where we can upload a csv file containing pin codes present in India and then all get inserted in the database. I have also created MVC for the Api where all the data related to package can be posted to database using the postman tool. And integrated the API's of different shipping providers and to it through which an AWB number is generated.

Tool used (Development tools - H/w, S/w): PHP, HTML, Java script, Phpmyadmin.

Objectives of the project: This project is about developing a shipping automation tool, which will be integrated with multiple shipping and choose the right shipping provider on following basis:

Use Cases / Logics 1.Rate Based-Choose the courier which is the cheapest based on the request 2.TAT Based-Turn Around Time - 4-7 days / 2-3 days 3.Order Value / Category Based Courier Integration For integrating a courier, we need the follow features on the website: 1.Basic Backend - User Role Based 2.Users -Brand, Employee, Admin 3.Courier Manager (Admin Role) - Add/Edit Courier, Courier - Drop Down, API Key, Endpoint URL 4.Courier Rates Manager-Import / Export Global Rates.

Major learning outcomes: I learnt a lot of new tech including use of bootstrap libraries, project creation in MVC structure, bitbucket and version control to name a few. I learnt how to work on live projects with fixed deadlines and this gave me a good exposure to industry. I also learnt a new language PHP and implemented most of the functions used in this language. I developed my skills in HTML and CSS. I also learnt SOAP (Simple Object Access Protocol) web service which is a XML-based protocol for accessing web services. I used SOAP web services while integrating bluedart API. I also learnt how work culture is there in an organization. Learnt how API's work and how they are integrated with the system. Learnt how to post and get data from database using MVC and postman tool. MySQL knowledge and database management and knowledge of using software's like phpMyAdmin and XAMPP. Command in using git and bitbucket. Debugging skills which help in fixing a bug or solving an issue which may sometimes take a long time.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is good. You will learn new technologies and will develop good technical skills. You will be working in teams and will learn different concepts. You need to be very fast to cope up with tasks assigned to you as there will be deadlines.You can expect good guidance and support from the company. You will be assigned a mentor by the company to whom you need to report the work you do daily.Consistency in working will make you have comfortable working environment.

Academic courses relevant to the project: Yes, OOP concepts helped me in understanding the project.

Name: SHRESTHA SARKAR (2018A8PS1029G)

Student write-up

Short summary of work done during PS-II: The work done for the duration of PS-II was that of report creation and then further analysis of these reports. These reports had to be analyzed in regular time intervals so that the progress of a particular brands growth could be kept in track. Coming up with new strategies for the growth of a product on e-commerce platforms.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: To perform analysis for business growth.

Major learning outcomes: Excel, An understanding of the E-commerce business.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The team members are very helpful and ready to answer any questions related to the projects.

Academic courses relevant to the project: No

PS-II Station: ANS Commerce – Non-Tech, Gurugram

Faculty

Name: Sandeep Kayastha

Student

Name: PRANJAL AGARWAL (2017A7PS0031H)

Student write-up

Short summary of work done during PS-II: I was part of the performance marketing team. My work revolves around the On Page and Off Page SEO techniques for the brand selected homme in order to increase the organic traffic. It included tasks which are needed to perform every week like research for high volume keywords, making meta titles and descriptions, checking page ranking for keywords every week, backlinking, content writing, content curation, quora answering etc.

Tool used (Development tools - H/w, S/w): Google Search Console, Google Analytics, Moz, Screaming Frog, SEO site checkup, Google Keyword Planner.

Objectives of the project: SEO for the brand Selected Homme to increase the organic traffic.

Major learning outcomes: Search Engine Optimization Techniques.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I would highly recommend this station to everyone who is inclined towards marketing roles. It is a great blend of search engine optimization knowledge and the various strategies used in optimizing the website to gain traffic. The team is super competent and the seniors are really helpful.

Academic courses relevant to the project: Yes, academic courses were relevant to the project.

Name: SHREYAS AUDHOLIA (2017B4A40166G)

Student write-up

Short summary of work done during PS-II: Performed business analysis of brands like Portico, Priyaasi, and Jack & Jones. This analysis helps to understand how to manage a brand, what are

its current strengths and weaknesses, how to overcome the weaknesses, as well as what are the market opportunities and threats for the brand.
Also performed several managerial tasks for 4-5 brands like working on inventory reports, managing websites, managing return orders, working on performance trackers for the brands, etc for effective management and smooth functioning of the brand, consequently maximizing sales revenue for these brands.

Tool used (Development tools - H/w, S/w): MS Excel, Google Sheet, Asana, Kartify, Unicommerce, Facebook Ad Manager

Objectives of the project: Business Analysis of brands and Brand Management

Major learning outcomes: MS Excel, Google Sheet, Asana, Kartify, Unicommerce, Facebook Ad Manager.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The senior managers at ANS commerce are very helpful and you learn a lot from them. There are several different managerial tasks on which you have to work on during the course of your internship. The work which you are required to do is explained thoroughly by your manager / senior and still if you have any doubt they are always available.

Academic courses relevant to the project: NA

Name: ISHANUJ HAZARIKA (2018A2PS0690P)

Student write-up

Short summary of work done during PS-II: As part of my work, I worked on the replication of tool Madgicx. This tool will be used by the marketing team for ad related insights for their ads

such as budget allotment, impressions and views, etc. In this project, we are hitting the insights of Facebook graph API and fetching the required data and displaying on our dashboard. Here for each field we have to extract 5 types of values i.e., Total, Acquisition Prospecting, Acquisition Re-Engagement, Retargeting, Retention.

This project's dashboard actually consists of 4 different panels named as:-

i) ARR dashboard ii) Strategy dtatus overview iii) Strategy dtatus drilldown iv) Total revenue

The ARR dashboard shows the data which is fetched from hitting the Facebook graph API. Rest of the 3 panels are actually the graphical representation of acquisition, retargeting, retention. For fetching the particular data of each field from the API, we have to pass the key name of a particular field to the URL.

Tool used (Development tools - H/w, S/w): MySQL, Docker, Bitbucket, Phpmyadmin, Redis, Jira, VS Code.

Objectives of the project: This project is based on the replication of a marketing tool Madgicx.

Major learning outcomes: Major learning outcomes were as follows:

1. Developing robust and bug-free code.
2. Understood the life cycle of a code (SDLC) from coding to deployment.
3. Learnt about various tech and development tools.
4. Learnt to work in a team and follow deadlines.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is decent. The team mentors are helpful and give ample time to learn.

Academic courses relevant to the project: DSA, OOP.

Name: YASHVARDHAN SOMANI (2018A2PS0802P)

Student write-up

Short summary of work done during PS-II: I was in the business team and was handling operations. The business team is at the forefront with the clients and handling all the communication with them. The job was to keep the operations running and solve any problems that might occur. Also to update and maintain all the metrics which the team tracks and presents to the clients.

Tool used (Development tools - H/w, S/w): Excel, Unicommerce.

Objectives of the project: Maintained KPI reports and other data driven reports which helped the clients make their day to day decisions.

Major learning outcomes: Got a good grip on excel, specially pivot tables and vlookup. Also was part of high stakes meetings with brands such as Philips and Nivea which helps develop soft skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment is good, they will teach you whatever is needed and since it is a startup you get access to almost all the company data. You also get to work on high stake projects.

Academic courses relevant to the project: None

Name: BALAJI C (2018A3PS0613H)

Student write-up

Short summary of work done during PS-II: Business analysis and product development.

Tool used (Development tools - H/w, S/w): Captive portal, Microsoft Excel, Amazon web services, Octoparse, Power Point Presentation, Google analytics.

Objectives of the project: Project is related to front-end, back-end, database management, client management and their use cases in a real-time project in an E-commerce industry.

Major learning outcomes: Management skills, Collaboration skills, Business communication skills, UI update skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is decent with more learning opportunities.

Academic courses relevant to the project: NA

Name: RITICK SRIVASTAVA (2018AAPS0366G)

Student write-up

Short summary of work done during PS-II: I was a core part of the analytics team. Since the analytics team is new, there is a lot of scope to learn as some reporting infrastructure is always being worked on. Good opportunity to get into analytics, specially to practice SQL and learn a lot of analytical tools.

Tool used (Development tools - H/w, S/w): Google Sheets, Redash, Power BI, Google Data Studio, Google Analytics, Google Ads Manager.

Objectives of the project: To develop the reporting structure of ANS commerce, includes developing automated reports and dashboards to be used by marketing and business teams.

Major learning outcomes: Development of an analytical mindset, defining metrics, knowledge about online marketing, knowledge of analytical languages and tools.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Being a startup, the work environment is fast-paced, there are knowledge transfer sessions in the start to get people up to speed on what is happening. Afterwards, you are expected to work the same as an employee, there is a lot to learn in E-Commerce and online marketing among other things in the company.

Academic courses relevant to the project: Probability and Statistics.

Name: SYAMITHA SREE RAVU (2018AAPS1036G)

Student write-up

Short summary of work done during PS-II: My role as a marketing intern was to conduct SEO strategies for multiple clients. As part of these three projects, I have conducted detailed audits of potential clients' websites and then mapped out a timeline of SEO strategies to be implemented. Following that, each day I have carried out a number of off-page, on-page and marketing activities for each of the clients over a period of five months. Each week, the data related to the results of the previous week's activities was gathered, sorted and collated into detailed reports for the brand coordinators. From this data, the overall SEO strategy would be revised or updated accordingly and then executed the following week.

Tool used (Development tools - H/w, S/w): Tools like Google Analytics, Google Search Console, Google Ads Platform, Ahrefs and Microsoft Excel were used on a regular basis.

Objectives of the project: The objective of this project is to conduct a deep analysis of the client's existing e-Commerce website, identify problems relating to technical glitches, improper content,

etc and then implement a detailed optimization strategy over a span of multiple months. The goal is to channel an increased number of users and potential customers to the client's website through organic channels only, and in turn drive an increase in conversions and revenue of the brands.

Major learning outcomes: From these projects, I learnt how to draft effective plans of action over a given time-period. I also learnt various data analysis techniques and how to utilize the information provided by data metrics to implement changes in my SEO campaign for the client. I also was able to self-delegate myself work and coordinate with the brand coordinators. I also gained a deeper understanding of a few of the commercial markets, how competitive marketing really works, and an overall understanding of the e-Commerce sector.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: The working environment is great at ANS Commerce. Senior mentors are very encouraging and help you at every step of the process. Work can be very collaborative at times, and you will likely interact and work with members across various verticals which is a great learning experience.

Academic courses relevant to the project: In my case, my project was related to Search Engine Optimization, which is a performance marketing activity. The course, Market Research, is relevant but not necessary to this project.

PS-II Station: AppBroda Tech. FZCO, UAE

Faculty

Name: Gaurav Nagpal

Student

Name: KAMANI JAY VIJAYBHAI (2018A4PS0076G)

Student write-up

Short summary of work done during PS-II: My major work was setting up QA process and supervising agents and other than that I was also managing the hiring process.

Tool used (Development tools - H/w, S/w): Google Ad Manager (AdX), Google sheet, Firebase.

Objectives of the project: Set up of QA process.

Major learning outcomes: Team management, Operations management, AD operations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The Appbroda is a very early age startup and whole team was working from a home. I was among the very first employee of the company so at the start of the my PS , I was working on multiple things but by the end of the PS the my major responsibility was managing the QA process and improving the quality of system.

Academic courses relevant to the project: OOPs.

Name: SHAH ARYA DIPESH (2018A4PS0425G)

Student write-up

Short summary of work done during PS-II: Worked in the early stage startup directly under the co-founder. Carried out various activities towards the daily operations and scaling the startup. Worked in a client facing role managing app publishers to run advertisements on their platform.

Managed their inventory via Google Ad Exchange, helped with quality assurance to check the apps and infer whether the ads are in compliance with the Google Playstore and Google AdMob's policies or not. Worked on Analytics to build optimization strategies to increase ad revenue for the app publishers. Also worked on hiring new employees.

Tool used (Development tools - H/w, S/w): Google Ad Manager (AdX), Google Firebase.

Objectives of the project: To scale the startup with various operational activities. Majorly focusing on publisher partnerships management.

Major learning outcomes: Client management, Google AdX, Google Firebase, Startup operations and scaling.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company expects a hard worker who can expand their boundaries to learn stuff and carry out the tasks, even though at some places the work might be repetitive or very time consuming.

Academic courses relevant to the project: OOPs.

PS-II Station: Apple India Pvt. Ltd., Hyderabad

Faculty

Name: T Venkateswara Rao

Student

Name: NIKHIL KUMAR (2017B5A70658P)

Student write-up

Short summary of work done during PS-II: The team I interned with works on building scalable distributed systems to process and analyze large amounts of sales data from Apple's resellers. The existing solution was a black box that provided no transparent view into pipeline traffic, thus making quick diagnosis of buildups difficult. I designed and implemented a high performance system to monitor pipeline traffic using the actor model of concurrent computation. The solution generates real-time performance metrics, contains an automated alerts system to highlight outliers and creates visualizations of traffic evolution to support corrective action and real-time sales analytics.

Tool used (Development tools - H/w, S/w): Scala (some Java too, as Scala runs on the JVM), Apache Kafka, Oracle DB, some amount of Python & shell scripting, Tableau, Maven, Git, a few internal tools.

Objectives of the project: Architecting and deploying a framework to generate real-time insights into Apple's streaming ETL pipelines.

Major learning outcomes: Message-passing concurrency, reactive streaming, actor model, real-time streaming ETL, REST APIs, data visualization for BI.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: Autonomy and expectation of high levels of ownership. By far the best aspect of the internship. I got to "own" and deliver a project with real business value to the organization. While my mentor was always happy to help, I had complete freedom to design and implement a solution and subsequently see it through UAT and deployed in production. If you like being entrusted with responsibility, figuring things out for yourself and working with a smart team, you will enjoy your time here and learn a great deal.
High visibility - I had multiple opportunities to present and showcase my work to senior management.

Academic courses relevant to the project: Object Oriented Programming (especially concurrency & GoF design patterns), Database Systems, Data Structures & Algorithms, Data Warehousing (I did not take it on campus, nor was it required for the project directly, but could have been a nice-to-have).

PS-II Station: Arkam Ventures, Bengaluru

Faculty

Name: Gaurav Nagpal

Student

Name: MADHAV MISHRA (2017B3A10480P)

Student write-up

Short summary of work done during PS-II: My work was mostly market research and market mapping for prospective investments. Along with the research for prospective investments, I did map investors and other things too.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: Investment analysis.

Major learning outcomes: Learnt about market trends, venture capital, funding, startups pitching.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work was decent and taught a lot of things.

Academic courses relevant to the project: Market Research.

PS-II Station: Arm Soft Technologies, Chennai

Faculty

Name: Akshaya G

Student

Name: ADITYA BEHARI SRIVASTAVA (2017B2A10567P)

Student write-up

Short summary of work done during PS-II: Part of frontend team which was working on creating a new functionality on existing software.

Tool used (Development tools - H/w, S/w): React.js

Objectives of the project : Worked on creating a new functionality on existing software as part of frontend team.

Major learning outcomes: While working with frontend team, I got to learn various aspects of React.js library which are useful to write better code.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working environment. Project head was very helpful and responsive.

Academic courses relevant to the project: OOP.

PS-II Station: Asanify Technologies Pvt. Ltd.,-Business Development, Kolkata

Faculty

Name: Arun Maity

Student

Name: LAKSHYA AJMERA (2018A1PS0644P)

Student write-up

Short summary of work done during PS-II: The only person who is handling pre-sales was me so all the work regarding pre sales was managed by me and in the process of doing all this, it was possible to learn a lot about different software, technical skills, communication skills and management. Around 15000+ small and middle size businesses leads was collected following the method. A proper channel to improve sales and growth for created. Making and improving scripts for inbound and outbound calling for better and effective communication was done be me. Plan to write cold emails and use it more effectively by proper planning and sequencing it was done. In the process to understand all this, competitive analysis to understand more about competitors in the market and ways to outperform them was also done.

Tool used (Development tools - H/w, S/w): 1. Apollo.io 2.Hunter 3. MS Excel 4. Octoparse 5. HubSpot 6. WordPress 7. Beaver Builder 8. Monday.com

Objectives of the project: Business development is essentially any activity or idea that aims to make a business better over time. This means making use of customers, implementing strategic

partnerships, using your markets and building your company reputation. A business developer aim is to grow business especially sales.

Major learning outcomes: Learnt a lot about sales, pre-sales, marketing, marketing analysis, web scrapping, lead generation, building landing pages, cold calling, cold emailing.

Details of papers / patents: Business development is essentially any activity or idea that aims to make a business better over time. This means making use of customers, implementing strategic partnerships, using your markets and building your company reputation.

Brief description of working environment, expectations from the company: It was healthy, fun to work. Responsibilities were given and room for experimentation was provided. All in all, it was a good experience.

Academic courses relevant to the project: No

PS-II Station: Asanify Technologies Pvt. Ltd. - Full Stack Software Engineering, Kolkata

Faculty

Name: Sugata Ghosal

Student

Name: VATSAL AGARWAL (2018A8PS0442G)

Student write-up

Short summary of work done during PS-II: Daily in the morning happens the scrum meet and different tasks and bugs are assigned to everyone. During the day, everyone stays connected on

slack and there is a evening catchup where we discuss the progress. The major part of internship was on frontend changes on vue.js and vuex, vuetify.

Tool used (Development tools - H/w, S/w): Pycharm, postman, vscode, chrome dev tools, AWS, python, Pandas, vuejs, vuex, vuerouter.

Objectives of the project: To enhance the user experience.

Major learning outcomes: Confident in vuejs, and vuex. Can integrate any api to the frontend or backend.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment is very good. The manager is quite understanding. The colleagues also help. This is a startup and at my time there were only 12-13 members. Most of them were interns.

Academic courses relevant to the project: None

PS-II Station: ASCO Numatics India Pvt. Ltd., (Emerson Automation Solutions) (New), Chennai

Faculty

Name: Raghuraman S

Student

Name: SAMARTH A PATIL (2017B5A40994H)

Student write-up

Short summary of work done during PS-II: 1) Designed better packaging to reduce damage during transit, improve brand image and to reduce material cost & packing times, using AutoCAD
2) Engineered, prototyped and tested fixtures which reduced worker fatigue and improved process times, using PTC Creo.
3) Created a 3D animated model of a process for presenting to key stakeholders, using PTC Creo Mechanism Dynamics.

Tool used (Development tools - H/w, S/w): AutoCAD/Draftsight, Creo Parametric.

Objectives of the project: Designing packing, engineering fixtures and modelling manufacturing processes.

Major learning outcomes: 1) Improved my knowledge of Creo and AutoCAD
2) Learnt about the problems faced with packaging and how to solve them
3) Understood the working of a typical manufacturing firm
4) Got better at designing mechanical components
4) Improved soft skills such as presentation, communication etc.,

Details of papers / patents: None

Brief description of working environment, expectations from the company: My PS was onsite. Work hours: 9-6:30. I worked in the manufacturing engineering department. My mentor was the deputy director of manufacturing. Although, my mentor was quite busy at times, others in the department were helpful in suggesting improvements or giving feedback. Innovative Ideas are encouraged.

Academic courses relevant to the project: Machine Design and Drawing, Engineering Graphics, Lean Manufacturing, Mechatronics and Automation.

PS-II Station: Avaamo, Bengaluru

Faculty

Name: Anita Ramachandran

Student

Name: SHRESHTHA GUPTA (2017A7PS0969G)

Student write-up

Short summary of work done during PS-II: Building of POCs.

Tool used (Development tools - H/w, S/w): Node.js, Selenium, Puppeteer.

Objectives of the project: Building POCs as well as working of things that will further help in others build POCs.

Major learning outcomes: Critical thinking, Teamwork.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The internship was work from home. Working environment was very friendly and educative.

Academic courses relevant to the project: Yes

PS-II Station: Bharat Forge Ltd., Pune

Faculty

Name: Naga V K Jasti

Student

Name: NISCHAY SOLANKI (2017B3A40633G)

Student write-up

Short summary of work done during PS-II: The project required us to do research regarding how the fracture toughness test is conducted, read and understand the scope of all forms of uncertainties that could creep into the product and perform analysis and mathematical calculations using Python / MATLAB and make relevant validations before making calculation on excel and finally arrive at a quantifiable number for uncertainty so that actions could be taken by the organization to implement the results. The project enabled us to understand organizational procedures as to how research is to be conducted and how results of research are to be represented so that actionable plans can be made for the implementation. The project also got us familiarized with programming tools such as python and excel which proved to be crucial for getting work done.

Tool used (Development tools - H/w, S/w): Python, Excel, MATLAB.

Objectives of the project: The objective of the project was to identify the uncertainty associated with the fracture toughness of steel and titanium forging.

Major learning outcomes: Learnt about research associated with forging industry, importance and implementation of Quality Control.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is very friendly. We did not have a typical working day environment, work related to the project was given in weekly meetings, which was done according to our time flexibility. The company expects weekly reports, monthly attendance and presence in the meetings held.

Academic courses relevant to the project: Mechanics of Solids, Production Techniques.

PS-II Station: Bloomreach Technologies Pvt. Ltd., Bengaluru

Faculty

Name: Seetha Parameswaran

Student

Name: NAIK SHOUNAK SHESHADRI (2017B1A70835G)

Student write-up

Short summary of work done during PS-II: To build a recommendation system we explored unsupervised, semi-supervised and supervised ranking approaches. We built Deep Neural Networks that classify and rank different products. Most of the work involved a pairwise similarity approach and due to this the amount of data to be handled was very big. We used multi-GPU clusters in order to train our datasets. In the end, we could build a recommendation system that performs better than the existing recommendation system at the company.

Tool used (Development tools - H/w, S/w): Python, PyTorch and PyTorch Lightning.

Objectives of the project: To build a multi-modal recommendation system.

Major learning outcomes: I became proficient with PyTorch modeling of Deep Neural Networks. I have improved on Python programming skills as the entire tech stack was in Python. I have also learned soft skills of presenting my ideas and sharing results of my work in a lucid manner. The biggest learning outcome is my increase in knowledge of the Deep Learning field.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a flexible working hours policy. There were some meetings at night because some team members are present overseas. The team expected concrete results periodically but also helped out tremendously if I was facing an issue. The team expects an independent person who can try out their own idea and design his/her method to achieve the end goal.

Academic courses relevant to the project: Machine Learning, Neural Networks Fuzzy Logic.

Name: PRATIK R BORIKAR (2017B3A70550P)

Student write-up

Short summary of work done during PS-II: End-to-end development of a debugging tool using Django web framework. Created a website to serve as an interface for Bloomreach API, along with new created APIs which extracts and displays data from amazon s3. Also worked with data pipelines, modified existing code. Worked on debugging customer issues and suggested improvements for certain features.

Tool used (Development tools - H/w, S/w): HTML, CSS, JavaScript, Django, boto3, psycopg2, scala.

Objectives of the project: Create a tool with new features to make interaction with Bloomreach's API easier.

Major learning outcomes: Developing code in accordance with the company standard, end-to-end development of a product - invloves development (frontend and backend), testing and deployment.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very helpful environment, supportive team members.

Academic courses relevant to the project: Object Oriented Programming.

Name: KOUSTUBH SHARMA (2018A7PS0114H)

Student write-up

Short summary of work done during PS-II: 1. Creating Django app
2. Making changes on Bloomreach's Django app
3. Running application on Kubernetes dev cluster
4. Using ELK stack with Filebeat and python
5. Scaling up the storages on S3 buckets
6. Anomaly detection on Logs

Tool used (Development tools - H/w, S/w): Git, ELK stack, Kubernetes, Logstash, Filebeat, Python, Apache spark, Django, Python, Fluentd, S3 buckets.

Objectives of the project: Anomaly detection on elb logs.

Major learning outcomes: ELK stack.

Details of papers / patents: No patent as such. We have created a prototype that we will reply on main prod env. And check anomalies in our logs.

Brief description of working environment, expectations from the company: I worked for Delivery team of Bloomreach. It takes care of data flow and scaling up the processes and correcting errors that arise over time in the existing setup.

Academic courses relevant to the project: C Language, Object oriented language, DBMS.

Name: DACHANI THANOOJA REDDY (2018A7PS0471H)

Student write-up

Short summary of work done during PS-II: Developed an internal debugging tool from scratch using react js and node js.

Tool used (Development tools - H/w, S/w): React Js, Node Js, MySQL, docker, GCP.

Objectives of the project: Primary objective of the project is to build an internal debugging platform which allows us to execute the preconfigured debug-flows, which checks and validates api responses at each step of the flow.

Major learning outcomes: Designing database Schema, learnt React Js and Node Js, Docker, API designing, Polishing the user interface and writing cleaner code, Meeting etiquette.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Had a great learning experience working with the company. Helpful team members.

Academic courses relevant to the project: DBMS.

PS-II Station: Blue Jeans Network India Pvt. Ltd., Bengaluru

Faculty

Name: Akshaya G

Student

Name: CHIMMILI SAI SAKETH (2018A7PS0287H)

Student write-up

Short summary of work done during PS-II: My task was to handle ENCR JIRAs, our team deals with the backend-development of BlueJeans application and all the Bugs and tasks which comes under the ENCR Microservices will be handled by our team. Another major task that I did was to integrate enunciate to our code base to generate Auto API documentation.

Tool used (Development tools - H/w, S/w): Git, BitBucket, JIRA, IntelliJ, Swagger, Enunciate, Jenkins, SumoLogic, Linux, Microservices.

Objectives of the project: The main objective for this task is to successfully integrate enunciate with the seam to generate the documentation and to work with the ENCORE JIRA'S which was to handle the reported bugs that were encountered in the real time app progress.

Major learning outcomes: I was able to learn a lot about handling micro-services and about exception handling using OOPS concepts, I have learnt java concepts like, file handling, API's, Gradle and about tools like postman, Swagger, enunciate and about Bitbucket, git, sumoLogic, Jenkins. More soft skills were improved in this PS as I need to be in contact with my peers regularly.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was healthy and friendly. We will be having a daily meetup, a scrum, where in we will be discussing our daily updates and so the feedback and commitment to complete the work is up, all the code changes we do will go live into the production. Company will trust the interns

more and will give a lot of self learning scope for them to work on, decode and complete the tasks mostly by themselves.

Academic courses relevant to the project: Object Oriented Programming, Operating Systems.

Name: POOJARI VENKATA SHREESH (2018A7PS0301H)

Student write-up

Short summary of work done during PS-II: Unit Testing in Jest (React JS).

Tool used (Development tools - H/w, S/w): VS code, Jest, GIT.

Objectives of the project: Testing.

Major learning outcomes: Testing and React JS.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good

Academic courses relevant to the project: Software engineering.

PS-II Station: Blue Yonder (JDA), Bengaluru

Faculty

Name: Vineet Kumar Garg

Student

Name: PRAJWAL M (2018A3PS0299G)

Student write-up

Short summary of work done during PS-II: Worked as a backed developer for their Identity and Access Management Platform. Several CRUD APIs were written for Role Based Access Implementation ,which is a part of their authorization service as part of this project. The project also involved testing of these written APIs and giving several demos of them to the team.

Tool used (Development tools - H/w, S/w): Spring Boot, jOOQ, PostgreSQL, Postman, Java.

Objectives of the project: Write APIs for the role based access control implementation as part of authorization service.

Major learning outcomes: Building REST APIs using Spring Boot framework and other tools and technologies widely used for development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment at Blue Yonder, Bangalore is very good. The mode of work was online and the working hours were flexible. There were team meetings on daily basis. You will have a good connection with all the team members and associates from the company. The manager and mentor were very friendly and helpful. The work allotted was individual and the team members are very approachable and helpful in case there is some query or problems regarding the project.

Academic courses relevant to the project: Object Oriented Programming, Database Management Systems.

Name: POSAPATI AKHILESH (2018A5PS1000P)

Student write-up

Short summary of work done during PS-II: Assigned was to create a function app for event filtration. Source code was developed in Java along with automation testing. Ci/Cd pipeline was built for the same using GitHub actions. The repository was added onto Black Duck server and CodeQL alerts were made active. Other tasks include solving Data Platform issues and manual testing of API and designing Azure logic app etc.

Tool used (Development tools - H/w, S/w): IntelliJ IDE, GitHub, Microsoft Azure, Shell Scripting, Java, Jenkins, Spring framework, PostMan, Black Duck.

Objectives of the project: Objective of the project is to build Function app for event filtration along with Automation testing.

Major learning outcomes: Experience in backend development. Testing and automation using DevOps.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is quite comfortable with flexible timings but a strict deadline. Expectations are realistic and the team is quite helpful.

Academic courses relevant to the project: Object Oriented Programming

Name: SHWETANG GUPTA (2018ABPS0502P)

Student write-up

Short summary of work done during PS-II: The first project was more of a Quality Assurance role where I debugged various scripts to remove any blockers. The second project was more into the DevOps side where I collaborated with the operations team who deployed the products at the customer's side to get clarity of what automation script was expected of me and then wrote the code using best practices, latest patterns and libraries as they were developed in the progression of the project.

Tool used (Development tools - H/w, S/w): FitNesse, Chef Inspec, Ruby, Java, Microsoft SQL Server, Oracle 19c, Rubocop, Git.

Objectives of the project: I worked on two projects. The first project was to solve test cases in an open-sourced software called FitNesse, a wiki-based automated testing framework that would enable solving bugs in the 2020 release of their WMS product and gradual transition to the Oracle 19c database. The second project was to write automation scripts in Ruby and run them using an open-sourced framework called Inpsec by Chef. This project reduced the deployment and validation check time for all their products from days to minutes.

Major learning outcomes: I learnt about various DBMS concepts and how to run test cases remotely and on local machines. Through various types of softwares like FitNesse, Chef Inspec, I learnt about their working and how to write Oracle and MSSQL compatible code. Through project 2, I wrote scripts in Ruby and I learnt how to make libraries and use OOP to write a compatible code that ensures maximum efficiency at production level.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The PS-2 remained online throughout for me. The company has an open culture where we can connect with anyone regarding any doubts. Initially, we were introduced to the company culture through various training and technical training about the company's services. I worked with the guidance of my mentor for project 1 and as I completed it, I was assigned project 2, where I worked independently. We had daily one or two meetings with India and the US team, where we discussed our progress

and ways to improve our approaches. The working hours were minimum of 8 hours and timings were flexible.

Academic courses relevant to the project: OOP, DBMS, OS, DSA.

Name: RITVIK JAIN (2018ABPS0504P)

Student write-up

Short summary of work done during PS-II: Blue Yonder has many warehousing solutions and a lot of them have end-to-end flows that have been automated using Robot Framework. I was in-charge of testing and maintaining the 'inbound' web and mobile tests. The inbound tests include receiving processes, from trailer check-in, to unloading the trailer and receiving the items and completing receiving. I received access to the GitHub automation tests repository for running tests on my local environment. I worked to add some further test cases in the existing automation scripts. I was also assigned the task of finding out some existing UI defects and reporting the same to my team. I was also given the job of updating some specifications in the 'Detail Receiving' formflow, which were linked to the manufacture and the expiration date. The changes were made to ensure that the user cannot input a manufacturing date that's in the future and that if the expiration date entered by the user is in the past, it should change the inventory status to 'Expired', and vice-versa. For maintenance purposes, I was also asked to observe and report any UI defects that I could find and later worked on fixing those defects.

Tool used (Development tools - H/w, S/w): JDA Mobile Development Software, Robot Framework, Android Studio, GitHub Desktop, Postman, Spring Boot, Appium, Eclipse IDE.

Objectives of the project: Mobile and Web automation tests maintenance and Mobile App Development.

Major learning outcomes: Learnt about Mobile and Web automation using Robot Framework, APIs using postman application and had a first hand experience at Mobile App Development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment at Blue Yonder was superb. My coworkers were friendly and supportive throughout. I never had to think twice before approaching them for help. The project offered by the company exceeded my expectations since I had zero experience in Robot framework automation and App development, but they gave me sufficient room to learn and grow my skills. I worked closely with the team and at times, I was given the job of getting new employees accustomed to the automation software and tools and helping them out with any problems they faced. This gave me a lot of confidence and exposure and the skills I have learnt during my time at this company will certainly help me in the future.

Academic courses relevant to the project: Yes, some courses like Supply Chain Management were necessary to understand the project.

Name: ISHANT DHAMIJA (2017B2A41047P)

Student write-up

Short summary of work done during PS-II: I worked as a part of Portfolio Merchandise Management (PMM) website development team. Merchandise Management is a part of Supply Chain Management, for which this product is used by many large organisations who dealing with physical goods. As a developer, I worked majorly on the frontend which involved development and redesign of various react components for the PMM website.

Tool used (Development tools - H/w, S/w): ReactJS, TypeScript, NodeJS, SQL, Git, VSCode, Postman.

Objectives of the project: Development of Portfolio Merchandise Management Website.

Major learning outcomes: Web Development, Frontend Development, ReactJS, TypeScript.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Everybody in my team was very supportive and provide guidance wherever possible. The working environment was very positive.

Academic courses relevant to the project: None

Name: YASH KHANNA (2018A3PS0550G)

Student write-up

Short summary of work done during PS-II: My work was to write functional automation test scripts for the product team. I was given this task so that I can automate the whole user journey and than will be able to find the bugs present in the product made by our team more quickly and efficiently.

Tool used (Development tools - H/w, S/w): Typescript, node js, webdriverio, visual studio.

Objectives of the project: Automate the whole user journey because of which team will be able to find the bugs present in the product made by our team more quickly and efficiently.

Major learning outcomes: I was not a coder and learned how to code in the internship itself. Learnt how to write code in a structured way learnt about supply chain management.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The internship was work from home and the work life balance was good and the expectations form intern were same as that for a fresher working for them.

Academic courses relevant to the project: None

PS-II Station: Blue Yonder (JDA), Hyderabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: GOEL TARANG DEEP (2018A3PS0571G)

Student write-up

Short summary of work done during PS-II: I worked with the frontend team on the Luminate pricing solutions product. Made multiple components for different products under pricing and wrote unit test cases for them. Primarily the development was done in typescript which is similar to javascript. Good place to work - I had a good team and good manager.

Tool used (Development tools - H/w, S/w): React.js

Objectives of the project: Product Development - Work on different components for the Luminate Pricing Solutions by Blue Yonder.

Major learning outcomes: First time frontend development - They gave me first 2 weeks off to do a course on React to get the basics. The product uses multiple libraries - some proprietary and some open source - like Material UI. Had really helpful team members who helped me out when I was stuck on some part and was a great learning experience.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: No expectations as such - they are very flexible and understanding and they expect you to get the work done and give sufficient time for the same. My team was a small 4 man frontend team including me and had 1 senior developer who helped me out whenever I was struck. Great place to work and very relaxed environment.

Academic courses relevant to the project: No

Name: SIDDHARTH SINGH (2018A4PS0024P)

Student write-up

Short summary of work done during PS-II: Work done during PS-I term at Blue Yonder, Hyderabad was aimed to improve existing features and functioning of CI/CD & patch pipeline build for TMS application deployment. The company's product TMS (Transport Management System) software is deployed and patched using the deployment & patch pipelines. I aimed to improve the overall functioning of these pipelines and provide it with logic that eases the deployment.

Tool used (Development tools - H/w, S/w): Ansible, Python.

Objectives of the project: Maintain, enhance and test CI/CD & patch pipelines of TMS application deployment.

Major learning outcomes: Functioning and building of CI/CD and patch pipeline using Ansible, Python and Jfrog.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is good and learners-friendly.

Academic courses relevant to the project: Courses related to Python language.

Name: SUPARTH GROVER (2018A8PS0606H)

Student write-up

Short summary of work done during PS-II: I worked with Network services team on transportation manager integration client using Core Java with Google web toolkit with Oracle 19C DB. The work mainly required knowledge of supply chain management which can be gained from company's learning portal. The work allotted was similar to SDE-1 role which followed Agile project management.

Tool used (Development tools - H/w, S/w): Java, GWT, Postman, Jenkins, Maven, Apache Tomcat, SQL Developer, Atlassian Bitbucket.

Objectives of the project: Development of feature / resolution of issues with transportation manager integration client.

Major learning outcomes: Java, GWT, Maven, Apache Tomcat, Git, Supply Chain Management, Transportation Manager.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Interns are allotted similar line of work as full time employees. The learning curve is great if you're willing to learn. Company environment is good.

Academic courses relevant to the project: Object Orientated Programming (OOP), Software Engineering, DBMS (SQL), CS F111.

PS-II Station: BNY Operations, Pune

Faculty

Name: Swarna Chaudhary

Student

Name: SHANTANU SINGH (2017B4A10755P)

Student write-up

Short summary of work done during PS-II: I successfully reviewed and developed the UDT for 2 deals. QC request was assigned to me for one deal and then later on I was the primary analyst for another deal. Also got to learn a lot about structured finance and corporate finance. Through my experience I concluded that VBA proves to be very useful in the process of automation. Using macros also cuts down the labour and time that goes into the UDT development.

Tool used (Development tools - H/w, S/w): Excel, VBA, SharePoint.

Objectives of the project: To learn how to develop UDT (User Defined Technology) for corporate trust operations team within BNY Mellon.

Major learning outcomes: Technologies – Excel, VBA, UDT, SharePoint
Structured Finance, Securitization, Teamwork and Interpersonal skills, Functioning of financial markets, investment and custodian banks.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is great. I got a chance to work with people in different time zones. The people over here are really helpful and friendly and you will never feel overburdened.

Academic courses relevant to the project: OOP, DBMS will be a plus.

Name: MANAV MALHOTRA (2017B4AA1016G)

Student write-up

Short summary of work done during PS-II: Data analysis of system logs to understand usage patterns of tools.

Tool used (Development tools - H/w, S/w): SQL, Tableau, Python.

Objectives of the project: Remove tools not in use to directly save costs.

Major learning outcomes: Learnt how to write complex SQL queries and present the insights in the form of simple dashboards.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was part of global team so we followed US timings. Team was really supportive and helpful.

Academic courses relevant to the project: CS F212 - Database Systems.

Name: PIYUSH SINHA (2018A1PS0074P)

Student write-up

Short summary of work done during PS-II: Part of the Global Operations and Technology team and working with various organizational datasets (like System Logging, HR etc) and using SQL,

Excel and Tableau for gaining insights into data and deriving solutions for various organizational problems.

Tool used (Development tools - H/w, S/w): Microsoft SQL Server, Tableau, Excel, Word, PowerPoint, Visual Studio Code.

Objectives of the project: My function was to champion data and analytics value creation and governance as strategic disciplines for the GOT organization. I was responsible for managing and analyzing massive amounts of data and supporting the whole GOT organization in delivering value from data. I was accountable for leading and working with multiple teams of data analytics, business SMEs, operations and technology staff and responsible for managing a range of data insights initiatives from ideation to delivery.

Major learning outcomes: Mastering my skills in SQL, Tableau, Excel. Formulating structure to go about solving a business problem. Presentation of data to senior leaders. Working with a diverse cohort from multiple nations and widening business acumen.

Details of papers / patents: No papers / patents published.

Brief description of working environment, expectations from the company: The work environment was amazing, everyone at BNY were supporting, helpful. Our ideas, opinions were highly valued and appreciated. Got to present our work to very senior leaders of the company. People in my team were a strong knitted community who went extra lengths to help anyone out. Overall my experience with the company was outstanding.

Academic courses relevant to the project: Foundations of Data Science, Machine Learning.

Name: HAREN CHOWDHRY (2018A4PS0479G)

Student write-up

Short summary of work done during PS-II: To aid in the process of on-boarding of future clients and banks from the previous manual process to the latest automation hub for global payments. Serve as the key link between the operations and IT team. A part of the Global payments team assigned to the task of setting up EPH (Enterprise Payment Hub).

Tool used (Development tools - H/w, S/w): iGrafx, MS Excel.

Objectives of the project: Developing a scorecard for all the different regions allotted to us. This scorecard dealt with the risk and compliance issues faced by each individual branch.

Major learning outcomes: Training with iGrafx is a welcome addition to the current skill-set. Beneficial knowledge about the working of a multinational company was imparted. Codes and guidelines expected to be followed by today's employees in the current world of work was also shared.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Flexible working hours and extremely amikable work culture. Great opportunity to learn and get a feel about the corporate environment.

Academic courses relevant to the project: NA

Name: SUBODH BAGHEL (2018A4PS0592P)

Student write-up

Short summary of work done during PS-II: Worked on the analytics team, where as the lead analyst, I created an User Defined Technology (UDT) for a BNY Mellon client using Visual Basic for Applications (VBA) on MS Excel.

Tool used (Development tools - H/w, S/w): VBA for Excel, Microsoft SQL Server.

Objectives of the project: UDT Creation.

Major learning outcomes: VBA, Microsoft SQLServer, Multiple financial products.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Excellent working environment, helpful team, flexible timings as long as work is completed on time.

Academic courses relevant to the project: NA

Name: VISHAL AMBER REVANUR (2018A7PS1018G)

Student write-up

Short summary of work done during PS-II: Built, maintained and published dashboards in Excel and Tableau for variety of utilities functions like KYC and Tax.

Tool used (Development tools - H/w, S/w): MS Excel, Tableau, Jira.

Objectives of the project: To make dashboards in Excel and Tableau for various utilities functions in BNY and to streamline the underlying data. These dashboards give visibility to senior leaders on key metrics and to take timely action.

Major learning outcomes: MS Excel, Tableau, various utilities at BNY such as KYC and Tax.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The employees were very friendly. Working hours were not very long, as long as you completed the work on time.

Good environment to learn all about the various functions of a custodian bank. Expected more data analytics work, but it was mainly centered on data visualization.

Academic courses relevant to the project: Mostly learning on the job. Useful courses were Applied Statistical Methods, DBMS.

PS-II Station: Bright Champs – Non-Tech, Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: AMIN DARSHAN SUNILKUMAR (2017B1A40777H)

Student write-up

Short summary of work done during PS-II: Product Management Operations: Built a leave management portal, Performance dashboard, Recommendation engine.

Tool used (Development tools - H/w, S/w): Google Docs, Figma, Lucidchart.

Objectives of the project: Product management.

Major learning outcomes: Learnt how projects are executed in a company.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Friendly environment, good company.

Academic courses relevant to the project: NA

Name: R ARUL MURUGAN (2018A1PS0015G)

Student write-up

Short summary of work done during PS-II: Product Management Operations.

Tool used (Development tools - H/w, S/w): MS Office

Objectives of the project: Automation of operations and product delivery.

Major learning outcomes: Stakeholder management, Product launches.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: Good working environment.

Academic courses relevant to the project: NIL

Name: CHERUKUPALLY SUTHEERTH REDDY (2018A2PS0647P)

Student write-up

Short summary of work done during PS-II: The objective behind my project was to analyse the causes for a dip in completion rate and generate ideas that will increase the completion rate so

as to stand competitive in the market. For that to happen, one must have good idea about the issues faced by students and the current market scenario.

Tool used (Development tools - H/w, S/w): Microsoft Excel, PowerBI, QuickSight.

Objectives of the project: Through the help of this project, we tend to improve the completion rate of demo classes by at least 15% with efficacious use of analytical models.

Major learning outcomes: Learnt to organize and analyse data using excel and PowerBI.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Company had very good and encouraging work culture. As it was startup it was easy to reach out to other people.

Academic courses relevant to the project: Business Analysis and Valuation (BAV).

PS-II Station: Bright Champs-Tech, Bengaluru

Faculty

Name: Monali Tushar Mavani

Student

Name: NAGUBADI VENKATA UDAY KIRAN (2018A3PS0397P)

Student write-up

Short summary of work done during PS-II: Automation of leave management system and NLP on zoom class audio transcription.

Tool used (Development tools - H/w, S/w): Node.JS, PHP, HTML, CSS, AWS.

Objectives of the project: Main objective is to automate and immediate accepetance of leave to teachers and NLP on zoom class audio transcripts to improve conversion rate.

Major learning outcomes: Developing large and scalable things in backend and sentimental analysis using NLP.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working culture and work life balance, friendly atmosphere to learn new things.

Academic courses relevant to the project: OOP, DM, DSA.

PS-II Station: BSCPL Infrastructure Ltd., Hyderabad

Faculty

Name: Mahesh K Hamirwasia

Student

Name: KHAJA MUAWINUDDIN AHMED (2018A2PS0765H)

Student write-up

Short summary of work done during PS-II: I was allowed to move through different sites for observing and supervising the ongoing construction of multiple flyovers in the area. Being present at different stages of construction I was expected to understand the methodology and be prepared to help in execution of the flyovers.

Tool used (Development tools - H/w, S/w): NA

Objectives of the project: The objective of the project is to construct flyovers in the heavy traffic jammed areas surrounding LB Nagar and its near by areas under the GHMC project.

Major learning outcomes: Methodology of construction of various types of flyovers.
Field strategies and techniques involved in the construction process of flyovers.
Major machinery and equipment used in the construction process.
Drawing study, execution and implementation of drawings to practical works.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working hours are lenient for the interns. The employees working all share an exceptional knowledge based on their experience and always encourage learning. The working environment is friendly and the higher executives are easily approachable. The company expects us to be engaging in all activities and be responsible for any actions taken by us and to be prepared when a different organization or the client approaches the site.

Academic courses relevant to the project: Introduction to bridge engineering.

PS-II Station: Bundl Technologies Pvt. Ltd., (Swiggy) - Tech, Bengaluru

Faculty

Name: Srinivas Kota

Student

Name: SINGH JATIN JAWAHAR LAL (2017B2A10609P)

Student write-up

Short summary of work done during PS-II: I worked on two projects, the first one was to create a framework to compare various vendors which offer various location based API services. In the project the crucial part was to fetch and transform data from various vendors on a uniform format. I wrote the code in Golang and host a webserver for the framework. To make the code dynamic, for any vendor in future, I had to make extensive use of Golang (channels, mutex etc). Additionally I also integrated Prometheus and Grafana to monitor the server being hosted. The framework was then uploaded on ec2.
My second project was to test various open source geocoders, to decide upon a backup API. This project involved testing out various open source softwares, out of which one was chosen. On this software, I had to do load testing to check whether it can handle the expected load and then change the source code to meet Swiggy's needs.

Tool used (Development tools - H/w, S/w): Golang, Jmeter, Prometheus, Grafana, MySQL.

Objectives of the project: Develop production ready tech which will be deployed.

Major learning outcomes: Production grade code, load testing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: My internship was completely work from home. But the culture is really good. You can reach out to anyone for help and they guide you with no judgement. They expect complete ownership from your side and the projects given are of importance with actionable impact. Finally, they expect you to deliver quality work, like of an employee and knowledge of DSA is a plus.

Academic courses relevant to the project: None

Name: Ujjawal Gupta (2017B2A81036P)

Student write-up

Short summary of work done during PS-II: Weekly there are ~10 million orders, currently the business team manually query all the failed orders. The objective of this new system was to automate this process of querying all the failed task automatically and then pushing them through a system which checks certain parameters and update them accordingly so the payout of the orders could be done.

Tool used (Development tools - H/w, S/w): Java, Oops, Spring Boot, DynamoDb.

Objectives of the project: To automate the whole process of converting failed orders parameters accordingly so the decision of their payout could be made by the system.

Major learning outcomes: Learnt how distributed systems work and how various technologies are linked to make a perfect working software.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is very healthy. The team mentors and managers are quite friendly and they help as much as possible to make you complete your task successfully. The nature of work is also very industry relevant and will help the interns in future roles.

Academic courses relevant to the project: OOPs, DSA, DBMS.

Name: MANAN PANERI (2017B5A10768P)

Student write-up

Short summary of work done during PS-II: Worked on backend development for handling API calls for service dashboard, SLTs for Swiggy services.

Tool used (Development tools - H/w, S/w): Spring Boot, AWS S3, DynamoDB, SQL, Kafka.

Objectives of the project: Software development

Major learning outcomes: Learnt about software development

Details of papers / patents: None

Brief description of working environment, expectations from the company: Great environment, inclusive peers, ideal for learning.

Academic courses relevant to the project: OOP, Computer Programming.

Name: SIDDHANT SINHA (2018A1PS0581G)

Student write-up

Short summary of work done during PS-II: Migrating several crons to AWS Lambda and integrating with several AWS services like KMS, RDS, Cloudwatch events and SNs for ease in maintenance and notification upon error. Backend development of an API which bypasses a slow query processung database.

Tool used (Development tools - H/w, S/w): AWS (services - Lambda, IAM, S3, KMS, RDS, Cloudwatch, SNS), Flask (python), Redis, Snowflake, Apache Kafka.

Objectives of the project: Migrating several crons to AWS Lambda and integrating with several AWS services like KMS, RDS, Cloudwatch events and SNs for ease in maintenance and

notification upon error. Backend development of an API which bypasses a slow query processung database.

Major learning outcomes: REST framework for API, multithreaded task queues, Databases, Caching, AWS.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good working environment, approachable and helpful team members, focus on technical skills and development as a software engineer, expected to implement skills and get results after mentoring.

Academic courses relevant to the project: DBMS, OS, OOP.

Name: MUKUND MADHUSUDAN JHA (2018A2PS0739P)

Student write-up

Short summary of work done during PS-II: I implemented-cum-developed an infrastructure improvement in the form of a new service. I was participant of the process right from the design doc presentation to the release team briefing. The development involved Golang, docker, lot of mandatory stuff for backend, protocols and the agile/CI-CD process. This was the most important project with respect to the company's work, ethos and was given the utmost priority. I was fortunate and highly appreciate the role played by my mentor and group mates.

Tool used (Development tools - H/w, S/w): Golang, Docker, Graphql, Jenkins, AWS cloud, Jira, git(GitHub, bitbucket), confluence,lol, etc.

Objectives of the project: Development of a service from scratch.

Major learning outcomes: Golang, Docker, Bash, Coding, backend and microservices in general.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is refreshing. The stress you feel is of the work you committed to.

Academic courses relevant to the project: DSA, OOP.

Name: ADITYA SHRIVASTAV (2018A4PS0570G)

Student write-up

Short summary of work done during PS-II: I worked in the portal team that is responsible for taking care of the client-side website (Mobile and Desktop) of Swiggy. I worked on two projects:
In the first project I had to implement accessibility (a11y) in the mobile website of Swiggy. The goal was to make user flow for a typical order journey fully accessible for non-traditional users. I implemented accessibility for 5 pages viz. home page, menu page, offers page, collections page, and help & support page.
In the second project, I worked on webview and implemented complete accessibility for the meat page. I covered 4 pages here viz. listing page, categories pages, menu page and product description page.

Tool used (Development tools - H/w, S/w): JavaScript, TypeScript, React JS, Mockoon, Jenkins, Git, Cypress, Accessibility.

Objectives of the project: Implement accessibility in Swiggy's mobile website (mweb) and make its experience more inclusive, convenient and fully accessible for non-traditional users.

Major learning outcomes: My projects were based on accessibility, so I got in-depth knowledge about it. I also got a decent understanding about the usage of Cypress and Mockoon. My understanding of Git and TypeScript improved significantly. I also learnt how to build, test and

deploy apps as disposable deployments on Jenkins. Understood various software development techniques and good practices needed to develop software at a large scale. Got to know what kind of problems are faced in real world applications and how to approach to solve them.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Swiggy has structured a lot in the past couple of years, so there are multiple teams. As an intern, you are assigned a team and your work will be focused on a single project/bunch of tasks depending on your team. The best part about working in Swiggy is the ownership. There is no micromanagement present at all so you get complete ownership as well as responsibility for the tasks that you're assigned. Managers and the team members constantly support and guide you. Swiggy doesn't differentiate between a full time employee and an intern. Everyone is very approachable and helpful. They expect sincerity, hard-work and most importantly they look for people who show interest in the work. The overall experience was fantastic and definitely memorable.

Academic courses relevant to the project: DBMS, OOP.

Name: AAYUSH KUMAR AGARWAL (2018A8PS0425P)

Student write-up

Short summary of work done during PS-II: I worked in the payments team at Swiggy. During the course of internship, several tickets to implement features and improve systems in the production systems were assigned to me. I learnt about various payment methods and gateways. I understood how digital payments at the scale of Swiggy are conducted and audited. I made deployments to production code across various dimensions such as internal APIs, external API, dashboard, logging etc.

Tool used (Development tools - H/w, S/w): Spring Boot, Go, AWS, SQL, Docker, Jenkins.

Objectives of the project: Make improvements in Swiggy payments system.

Major learning outcomes: Intricacies of digital payments systems including coordination and auditing. Technical implementation and management of the same.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Being a remote environment, the work system was good and self defined. Work culture is task based and not hours based. Overall good communication across the organization and effective cross team problem solving through JIRAs.

Academic courses relevant to the project: CP, OOP, OS, DBMS.

Name: ANMOL SHARMA (2018A8PS0781P)

Student write-up

Short summary of work done during PS-II: The main objective of the project is to improve the current delivery fee uploading process by integrating it with the swiggy's inhouse bulk upload service, i.e Hulk. Integrating the rate-card-upload service with the hulk will remove the need to worry about the bulk uploading of the rate-cards giving us streaming uploads which are much more scalable than the API based upload model.

Tool used (Development tools - H/w, S/w): Java, Spring Boot, DynamoDB, Go Language, Apache Kafka, S3 Bucket, gRPC, Redis, Guava, Jackson, Git, Zookeeper, Localstack, BitBucket, Jenkins, Jira, BloomRPC and Postman.

Objectives of the project: Onboarding the Rate-Card-Upload service to the Hulk.

Major learning outcomes: Learnt to write modular code with the help of object oriented programing, scalable code that is able to handle enormous amount of data.
Understood the current architecture and its flow in order to configure them according to our needs.
How to write effective test cases and testing our code using unit tests and service level testing.
Understanding the gRPC protocol and how to connect two service using it.
Understanding Apache Kafka and its uses and how can we achieve concurrency from it.
Misc. Dev tools like: Git, Mysql, Postman, BloomRPC, Jenkins.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment was very nice and all the employees are very helpful.

Academic courses relevant to the project: OOP, Computer Networks, Computer Programming.

PS-II Station: Cambium Networks Pvt. Ltd., Bengaluru

Faculty

Name: Pawan Sharma

Student

Name: AMAN BHARDWAJ (2017B5A30850G)

Student write-up

Short summary of work done during PS-II: Developed an automated documentation using AsyncAPI for messages exchanged between cnMaestro (Cambium's Network Management System) and devices over secure WebSocket. RabbitMQ is used as message-broker and the cnMaestro is developed using MEAN (Mongo, Express, Angular and NodeJS) stack, Redis,

Postgres, and RabbitMQ. Developed an API documentation using Swagger for all the RESTful APIs supported for cnMaestro GUI.

Tool used (Development tools - H/w, S/w): AsyncAPI, RabbitMQ.

Objectives of the project: Documentation of messages exchanged between cnMaestro (Cambium's Network Management System) and devices, API documentation using Swagger for all the RESTful APIs supported for cnMaestro GUI.

Major learning outcomes: Got to know how API works and how async messages are exchanged.

Details of papers / patents: None

Brief description of working environment, expectations from the company: There was no pressure of work and I was allotted some work throughout my internship.

Academic courses relevant to the project: None

Name: RAUNAK SHARMA (2018A3PS0377P)

Student write-up

Short summary of work done during PS-II: The initial part of the internship was mainly focused on training i.e. learning the LTE and programming concepts as the terms were very different and new. In the later part, the main focus was to analyze the LOG file and create an end-to-end system that takes the input as LOG file (which contains raw data) and filters out the required data, shaves (parses) and arrange it into a tabular format for better readability. It further plots the values calculated opposite to time scale on x-axis. The system should be completely dynamic as the file names should also be based on the data available in the LOG files. The graphing tool used is gnuplot and plots are automatically saved into the current working directory.

Tool used (Development tools - H/w, S/w): Linux, gnuplot, python, shell script.

Objectives of the project: The project is very useful as far as the organization is concerned as it is gonna help them analyze the MCS IDX and CQI values received at the uplink which is plotted against the time scale which help them to increase / decrease the channel quality and correctly analyze the link adaption. The company is planning to expand and move towards 5G spectrum so the current data rate and quality analysis is mandatory to make it more efficient.

Major learning outcomes: Learnt to make system & code quite clean and generic. We are discussing everything in detail so every minute concepts are getting cleared and my confidence level is also boosted now. There's a quite improvement in my communication skills also and got to know about about how corporate world works. Tools used are linux, python pandas, gnuplot, shell script.

Details of papers / patents: No papers / patents published yet.

Brief description of working environment, expectations from the company: The working environment was very good and all my colleagues were very helpful throughout the project / internship. We had regular meetings every alternate day and they literally put very strong efforts during my training time. The also helped me learn new concepts and we had very detailed discussions about every single point. So, my overall experience was good throughout.

Academic courses relevant to the project: Communication systems, Signals and systems, Operating systems, Data structures and algorithms.

PS-II Station: Capillary Technologies (New) - IT, Bengaluru

Faculty

Name: Akanksha Bharadwaj

Student

Name: SURAJ (2017B4A10887P)

Student write-up

Short summary of work done during PS-II: I was assigned the project SellerWorx, a order management system acquired by capillary in 2016. We worked on two man team. Our task was to maintain the SellerWorx system like update and add the marketplace APIs and to debug the cause whenever the system crashed and fix it immediately.

Tool used (Development tools - H/w, S/w): Laravel, PHP, Grafana, JIRA, Git and Github, RabbitMq, MySQL, LAMP stack.

Objectives of the project: To integrate the markeplaces like Bajaj, Flipkart Wholesale in Sellerworx and also to update the security apis of TataCliq.

Major learning outcomes: API Integrations, LAMP stack, RabbitMQ, MySQL.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: They expect the work in a rapid pace and be attentive and cautious about daily meetings.

Academic courses relevant to the project: C programming, OOP, DBMS and to some extent DSA.

PS-II Station: Central Electronics Engineering Research Institute (CEERI), Pilani

Faculty

Name: Pawan Sharma

Student

Name: BULLE ABHISHEK MANOJ (2018A3PS0663H)

Student write-up

Short summary of work done during PS-II: The project given to me is "Classification of Lung Sound Signals using Deep Learning". Firstly started of writing the literature review on the given project with latest Machine Learning and Deep Learning techniques followed by learning some courses which were helpful enough to do the work. Then, my respective mentor has given me some research papers related to the project so that I can have more knowledge in that area. So after gaining knowledge by doing all the above mentioned learnings my mentor told me helped to do my work.

Tool used (Development tools - H/w, S/w): Google Colab, Python, Neural Network.

Objectives of the project: The main aim of the project is to know importance of regular check-up of heart / lung sound signals and learn a way to classify them using Deep Learning.

Major learning outcomes: To Construct Neural Network with help of Keras, numpy and panda packages. In addition to it I also learnt Python and Tensor Flow.

Details of papers / patents: No Patents

Brief description of working environment, expectations from the company: My mentor at CEERI had been quite supportive for me throughout this 5 months of PS journey. Inspite the work from home mode, he understood the limitations and guided me in a better way to overcome it. He also gave good guidance, sources and research papers which helps for the project.

Academic courses relevant to the project: Neural Networks and Fuzzy Logic.

PS-II Station: Central Leather Research Institute (CLRI), Chennai

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: SHAH PRATULYA BIMAL (2017B1A40501P)

Student write-up

Short summary of work done during PS-II: The objective of my project was the formulation of a collagen-based bioink for 3D printing in tissue engineering applications. Collagen was extracted from tannery waste hide and purified. The anionic polysaccharide, carrageenan was investigated for its potential to gel the purified collagen. Due to fibrillation of collagen in the presence of polysaccharides, the potential of carrageenan to act as base material for novel bioink was investigated by formulating carrageenan hydrogels. Tannic acid was added to improve the mechanical strength and gelling properties of carrageenan. Lastly, the carrageenan hydrogel was also loaded with anti-oxidants and their release profile was assessed to characterize the biological applications of this hydrogel.

Tool used (Development tools - H/w, S/w): UV Spectrophotometer, Texture analyser, Light Microscope, Python.

Objectives of the project: Formulation & characterization of novel bioprintable materials for 3D printing in tissue engineering applications.

Major learning outcomes: Understood the workflow of 3D bioprinting. Obtained hands-on exposure regarding compression testing using texture analyzer, UV-visible spectrophotometric assays.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: CLRI offers a supportive and encouraging work environment, the scientists and staff are always ready to help and accommodate the needs of the student. The working hours are also comfortable and highly flexible depending on the needs of the student and the project.

Academic courses relevant to the project: Mechanics of Solids, Fluid Mechanics, General Chemistry, General Biology.

PS-II Station: Central Road Research Institute (CRRI), New Delhi

Faculty

Name: Mahesh K Hamirwasia

Student

Name: VANKAYALAPATI LOT ABHISHEK (2018A2PS0102H)

Student write-up

Short summary of work done during PS-II:

Tool used (Development tools - H/w, S/w): H/w

Objectives of the project: To assess multiple sectorial requirements to improve agriculture income.

Major learning outcomes: Limited data analysis.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Very good working environment with proper guidance.

Academic courses relevant to the project: No

PS-II Station: Centre for Artificial Intelligence & Robotics, Bengaluru

Faculty

Name: aghuraman S

Student

Name: AMBAR MORE (2017B5A40917P)

Student write-up

Short summary of work done during PS-II:

Tool used (Development tools - H/w, S/w): Matlab, Simulink, Opensim, Solidworks.

Objectives of the project: Project objectives were to design a control system for an upper body waist powered exoskeleton.

Major learning outcomes: Learnt how to use Simulink to create control systems.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: In person reporting to the lab is compulsory. Each student is assigned a scientist to work under. The project domain will be related to robotics. The project topics are related to some of the latest work being worked upon in the robotics industry. Since, the lab is a DRDO lab there are few restrictions. You will not be allowed to carry any electronics devices inside. There is also limited internet access. Most of the work revolves around going through research papers trying to find material relevant to the project.

Academic courses relevant to the project: CAD, Machine Design and Drawing, Kinematics and Dynamics of Machines.

Name: GUPTA AMAN NITIN (2018A4PS0561P)

Student write-up

Short summary of work done during PS-II: Development of an autonomous quadruped robot, tank and simulating them in various custom worlds developed by us.

Tool used (Development tools - H/w, S/w): ROS, MATLAB, Blender, Gazebo.

Objectives of the project: Development of an autonomous quadruped robot and tank and simulating them in various custom worlds.

Major learning outcomes: Real time experience of working beside senior scientists on various projects as well as few workshops on software and learnt more about cutting edge and modern technologies.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: We work in an isolated environment as we do not have access to internet or phones but get most of the resources need by the company.

Academic courses relevant to the project: Not much

Name: ANGAD SINGH CHAHAL (2018A4PS0595H)

Student write-up

Short summary of work done during PS-II: Study of kinematics and dynamics of quadruped robots using Python, MATLAB and ROS Gazebo. Simulation and testing of quadrupeds and AGVs in Gazebo using custom built worlds according to requirements.

Tool used (Development tools - H/w, S/w): ROS, Python, MATLAB, Gazebo, Blender.

Objectives of the project: Study of mechanics and motion of quadrupeds, developing new worlds for testing in Gazebo.

Major learning outcomes: Learnt the in depth kinematics and dynamics for manipulators and quadrupeds; integrating python, MATLAB and Gazebo for stability testing; using blender to design custom worlds for simulations; creating ROS packages for testing of quadrupeds and AGCs in custom worlds.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Mentor gave guidance and help for project along the way. Apart from that, the technical guide helped a lot in learning and solving any issues along the way. Even the other scientists who are not involved in the project are willing to lend a hand and sometimes check on progress and help answering any doubts. Other than that I got to interact with student interns from other colleges as well.

Academic courses relevant to the project: The courses done in college especially for Robotics minor were relevant for the study involved in the project. Prior knowledge of mechanics and ROS was very helpful in making progress.

PS-II Station: Cisco Systems (India) Pvt. Ltd., - Software Engineering, Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: PRATYUSH PATHAK (2017B3A30661P)

Student write-up

Short summary of work done during PS-II: The work I did in Cisco as part of PS-II was mostly related to data analytics, R&D, Machine Learning & AI. The main goal of the project was to measure the overall health of a system using entropy as a compact measurement framework. The entropy calculations were done by estimating the deviations of the sensor readings from their respective reference values. Using some selected probability distributions, the deviations were converted into probabilities, which were then translated into entropies using some selected entropy estimation schemes. The entropy pool for each router is then constructed by mixing all entropies coming from its sensors via a mixing function, from which observations were drawn upon regarding the health of the routers and in turn, system. The study has been carried out for both intrinsic as well as extrinsic parameters. c9400, Ramnath Telemetry, ISR4K and ASR9K (single router as well as multiple router) were used as the datasets for the conduction of our analysis and observation of results.

Tool used (Development tools - H/w, S/w): Jupyter Notebook, Python, MS-Excel.

Objectives of the project: Using entropy as a compact measurement framework, ascertain the overall health of the system and predict hardware failures.

Major learning outcomes: 1. Although intrinsic parameters are important to our entropy estimation study, the extrinsic parameters are the major force that determine the entropy and in turn, health of a router.
2. Non-zero entropy may mean that the router is healthy, in some cases. Further study is required to investigate as to why this may happen.
3. Due to its compactness and ease of application, entropy is thereby as an ideal measurement framework for system health.

Details of papers / patents: No paper was published.

Brief description of working environment, expectations from the company: The working environment that I experienced in Cisco was fabulous; everyone is super helpful. No matter how trivial or small the issue is, the employees are very easy to approach and are very eager to help. In my earlier months, I was working side-by-side with a team from US. Even they used to accommodate me in their busy schedules in order to help me in any way possible. Also, I received Diwali gifts and free lunches from the company, even though I was only an intern and working from home. All in all, I had a wonderful experience with Cisco.

Academic courses relevant to the project: Since my project is related to data analytics, the data science minor courses will be relevant in this case. The project also involves a certain bit of Machine Learning.

Name: RUTUVI NARANG (2017B4A20750P)

Student write-up

Short summary of work done during PS-II: Given that cloud web applications and direct internet access traffic has grown significantly in volume, it is important to provide efficient and reliable access to cloud-based resources. An HTTP Cache service for Livestream videos streamed on Cisco TV and software updates from Microsoft will reduce the latency associated with the HTTP transactional content by providing faster response time and improved WAN bandwidth utilization. Also worked on Unit testing of features and automation of test cases which help to keep in check the issues and have a significant effect on the performance and quality of the products being released.

Tool used (Development tools - H/w, S/w): Python, Apache Traffic Server.

Objectives of the project: Enabling HTTP Caching, Unit testing of features, automation of test cases.

Major learning outcomes: HTTP caching, automation of testing, Unit testing of features.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment at cisco is very inclusive, collaborative, fun and challenging. You would not feel excluded as an intern, your work would be valued and would most likely be used in real time projects. You can expect the internship to be a great learning experience where you are surrounded with intellectuals and people expert in their fields who are always ready to guide you and share their knowledge.

Academic courses relevant to the project: Computer Networking, Computer Programming.

Name: AYUSH JINDAL (2018A3PS0348P)

Student write-up

Short summary of work done during PS-II: Created graphical interface to automate testing workflow.

Tool used (Development tools - H/w, S/w): VS Code, Linux, Python, NodeJS, Javascript, HTML, CSS, pyATS, C, Github.

Objectives of the project: Ease testing procedure by creating an end to end graphical interface.

Major learning outcomes: HTML technologies like headers and CORS, JS, WebD, collaborative workflow.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Expect a fast paced but fun filled environment where you will be expected to and even encouraged to learn something new almost on a continuous basis. Had the internship been onsite, it would have been much more enriching and hands on experience but you have got to do with what you have got.

Academic courses relevant to the project: CP

Name: SHETTY KARTHIK RAVINDRA (2018A7PS0141H)

Student write-up

Short summary of work done during PS-II: The objective of the project was to develop an efficient log management system as part of the POC project for migrating the Cisco Unified Customer Voice Portal (CVP) to AWS. Currently, application logs are being stored in the filesystem and syslogs are pushed to an endpoint. But for the cloud solution, Cisco plans to include log management and the alerting system as part of their multi-tenant architecture to leverage customer experience and help clients to monitor their system smoothly.
The first step was establishing a flow and developing a pipeline for log transfer from Filebeat --> Logstash --> ElasticSearch to Kibana for visualization. To make this process more efficient, I used Fluentd for log forwarding as well as parsing and then sending it to ElasticSearch. Upon some

research, we realized the need to switch to a time-series database from a document-oriented database like Prometheus along with the visualization tool of Grafana to develop dashboards and set up alerts on reaching certain thresholds.
Finally, we narrowed down to a robust architecture for syslogs being Syslog endpoint --> rsyslog --> promtail tailing to Loki --> Grafana. Also, set up an archiving system for logs from CVP to s3 bucket using FLuentd with partitions for each type of log.

Tool used (Development tools - H/w, S/w): Filebeat, Elasticsearch, Logstash, Kibana, Fluentd, Prometheus, Loki, Grafana, AWS.

Objectives of the project: To develop an efficient monitoring system for Cisco Unified Customer Voice Portal (CVP) on AWS.

Major learning outcomes: AWS Fundamentals, Log Management using different open-source tools, creating dashboards on Grafana.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: The work culture at Cisco is very good. They follow Scrum framework for software development where stories are created for each sprint of 2 weeks duration followed by sprint review and demo at the end of each sprint.

Academic courses relevant to the project: Software Engineering, Computer Networks.

Name: AMIT CHAUHAN (2018A7PS0196G)

Student write-up

Short summary of work done during PS-II: Worked on authenticating and encrypting communication between dozens of nodes on a network using the gRPC framework.

Tool used (Development tools - H/w, S/w): gRPC, C++, TCP/TLS.

Objectives of the project: To integrate authenticated and encrypted gRPC communication on the IOS XR platform.

Major learning outcomes: Learnt the details of gRPC authentication API, interceptors, public key infrastructure and OpenSSL.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The team was very helpful and accomodating.

Academic courses relevant to the project: Computer Networks, Operating Systems.

Name: YASH AGRAWAL (2018A7PS0251P)

Student write-up

Short summary of work done during PS-II: We have created a Chat Bot using Spring framework. The server was created using spring boot, we used the Webhooks to trigger the server whenever a new request made. Then API gets calls according to the request. After that appropriate messages were sent in the Webex as result. The chatbot was deployed on Spinnaker with Kubernetes.

Tool used (Development tools - H/w, S/w): Postman, IntelliJ, SpringBoot, Java, Kubernetes, Jenkins, Spinnaker, Docker, Git, Junit, Ngrok.

Objectives of the project: Create a chat bot which will fetch information from the Cisco helpdesk website and prints in the Webex space.

Major learning outcomes: Learnt the followings,

1) How to use the concepts learnt from Object Oriented Programming class to a real world application and took advantage of OOP .
2) How to test APIs using advanced tools like Postman.
3) How to create tunnels to connect our local port to public URLs which are used for webhooks.
4) How to run unix commands through the server.
5) How to use Microsoft Adaptive cards to create interactive responses.
6) Our presentation and communication skills are enhanced as we regularly meet our mentor and learn the non-technical skills which are essential.
7) How applications are deployed on the cloud.
8) How to containerize our web application using docker.
9) CI/CD pipelines and created one for our web servers using jenkins.
10) Different containers which are deployed are managed automatically using Kubernetes and how they are deployed using Spinnaker.
11) How to use VCS (version control system) i.e. github for development of projects when we are working in a team.
12) Test code eg. unit test before pushing the code into production.
13) To write code according to industry standards and also learnt all the standard practices which a developer should follow.

Details of papers / patents: No paper / patents published

Brief description of working environment, expectations from the company: My experience at Cisco was amazing. I gain a lot of confidence and learnt so many new things. My manager and mentor are very nice. They makes sure that whichever task he allots to me, it will help me to learn some new things which will be beneficial for me in the future. We also had weekly meetings, where I got the feedback about my work. So, overall the working environment was awesome. I hope I will get a chance to work again in Cisco.

Academic courses relevant to the project: OOP, DSA.

Name: SATASIYA AKASH JAYANTIBHAI (2018A7PS0804G)

Student write-up

Short summary of work done during PS-II: The work was related to web development. Chat Bot was created using SpringBoot. Server was created using spring boot, this server was used to accept the requests and make API calls according to the request and then appropriate messages were sent as result. The chatbot was deployed using Spinnaker. Docker was used along with Kubernetes for deployment and CI/CD pipeline was created in Jenkins for integration purpose.

Tool used (Development tools - H/w, S/w): Maven, SpringBoot, Docker, K8s, Kubernetes, Jenkins, Junit, Mockito.

Objectives of the project: Create a Bot to save the time of the Cisco Engineers by providing necessary information.

Major learning outcomes: Learnt the following things,
1) Create server using Spring Boot which process the incoming requests.
2) Learnt how to containerise applications using Docker.
3) Deploy application / server on Spinnaker, with help of advanced tools like K8s for orchestration of containers and Jenkins for CI/CD pipelines.

Details of papers / patents: No papers / patents.

Brief description of working environment, expectations from the company: Very Helpful Environment . They give sufficient time to learn and do the tasks . They have very realistic expectations and very good place to learn and work.

Academic courses relevant to the project: DSA, OOP.

PS-II Station: Cisco Systems (India) Pvt. Ltd., - Hardware, Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: SAMRUDDHI JAIN (2017B2A30255G)

Student write-up

Short summary of work done during PS-II: My work involved the verification of a data security block called Security IP which was the design under test (DUT). It was done by creating a verification environment in system Verilog. Also developed a reference model using OpenSSL in C to ensure that the DUT conforms to the functional specification.

Tool used (Development tools - H/w, S/w): System Verilog, UVM, OpenSSL, C

Objectives of the project: The objective of the project was to ensure the designer that the module is robust enough to be synthesized by verifying it. The verification objective was to make sure that the design conforms to the functional specification.

Major learning outcomes: Learnt to develop test benches, tests and also learnt a lot about security protocols and cryptography.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was really very good. My manager was very supportive and he kept motivating me all the time. I really got to learn a lot.

Academic courses relevant to the project: Digital design, MuP and Computer programming.

Name: UDDIT AGARWAL (2017B2A30390G)

Student write-up

Short summary of work done during PS-II: Added new functionality to an in-house tool to efficiently parse logfiles.

Tool used (Development tools - H/w, S/w): VNC, TCL, Perl, Python.

Objectives of the project: Improved parsing of logs.

Major learning outcomes: Learnt about how work is carried out in big organisations and got hands-on experience.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Everyone was very welcoming.

Academic courses relevant to the project: Core subjects.

Name: SUKRITI MISHRA (2017B3AA0804G)

Student write-up

Short summary of work done during PS-II: I was mainly involved in verification of line card Asic. I learnt about test bench generation and developing test cases to check the corner cases. Test environment was created in UVM. Synopsys compiler was used to view waveforms and find bugs in the design.

Tool used (Development tools - H/w, S/w): Synopsys compiler, System Verilog, UVM.

Objectives of the project: To develop verification environment for ASIC.

Major learning outcomes: Asic verification.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Company provided laptop and all work was done online. Mentor and manager both were very helpful and gave time to understand new concepts.

Academic courses relevant to the project: Digital Design.

Name: V RAGHAV SRINIVAS (2017B4A30748H)

Student write-up

Short summary of work done during PS-II: Part of team in a live project. Was given small tasks regularly.

Tool used (Development tools - H/w, S/w): SystemVerilog, Python, UVM.

Objectives of the project: Live project of the company.

Major Learning outcomes: Verification Methodology of ASICs.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Initial learning curve is a bit steep if you are not too familiar with verilog but ample time is given to take it slow. If you are part of the live project you will get to interact with a lot of people for different reasons and

everyone is very welcoming. Right amount of guidance given to enable learning at a steady pace and progress is evident on a weekly basis.

Academic courses relevant to the project: Digital Design.

Name: DEVANSHU MAHESHWARI (2018A8PS1016H)

Student write-up

Short summary of work done during PS-II: As an Hardware Engineering Intern, I was part of ASIC Design verification team. Design verification is preliminary and very important task in chip designing. My role was to write TestBench codes for functional coverage, verify the design features and meet the coverage goals using SystemVerilog and UVM. Cleaning up warnings and review the code changes was another of the tasks given. Script with Python to find different results was another task.

Tool used (Development tools - H/w, S/w): SystemVerilog, UVM, Linux.

Objectives of the project: ASIC Design verification.

Major learning outcomes: Design Verification, SystemVerilog, UVM.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working at CISCO has been a great source of learning. The working environment is really good with flexible working time, constant support from team members, everyone is very helpful, skilled and we learn a lot.

Academic courses relevant to the project: Computer Architecture, Digital Electronics, Microprocessors and Interfacing.

PS-II Station: Class 21A Pvt. Ltd., Gurugram

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: SIDDHARTH KUMAR DUBEY (2017B2A40717G)

Student write-up

Short summary of work done during PS-II: Implementation of an additional features in the app of the company.

Tool used (Development tools - H/w, S/w): GitHub, VS code, Mysql, Ms excel, google sheets, Google docs.

Objectives of the project: To implement new features on the app of the company.

Major learning outcomes: I was introduced to backend development. Learnt javascript and node.js which are one of the key skills for backend development. Express was the main library which was used extensively used. I was introduced to Github and how the flow works. I also worked with product management tools like atlassian jira.

Details of papers / patents: No paper / patents were delivered.

Brief description of working environment, expectations from the company: Since class 21A is a startup the work is fast paced, but learning opportunity are great. People are very helpful and guidance is provided on every step. You can reach out to any person within the organisation and ask for help.

Academic courses relevant to the project: DBMS, DSA.

Name: GURU SUDHAN M (2017B4A40967H)

Student write-up

Short summary of work done during PS-II: Worked on building Python algorithms for the app.

Tool used (Development tools - H/w, S/w): Python, SQL, Jupyter Notebook, Postman.

Objectives of the project: Find the root cause of day to day issues in metrics.

Major learning outcomes: Learnt various aspects of how to analyze a product (app).

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment at the company is really very good and great learning opportunities.

Academic courses relevant to the project: NA

PS-II Station: Classplus, Noida

Faculty

Name: Sugata Ghosal

Student

Name: DONTHU MOHITH KRISHNA (2018A8PS0324H)

Student write-up

Short summary of work done during PS-II: We had been alloted in new project under social engagement. Our work is to prepare backend part for youtube analytics and giving to frontend part for dashboard.

Tool used (Development tools - H/w, S/w): Node, Typescript, JS, Mysql, Postman, Swaggar.

Objectives of the project: This project helps to give insights about tutor's youtube channel's data.

Major learning outcomes: Learnt about Javascript, Node, Typescript, Mysql and how to use and write ApIs.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: Pre-knowledge of web development like Node, JS, Databases, Frontend would be useful. The mentors are fully supportive inspite of their busy timings.

Academic courses relevant to the project: OOPs, DSA, DBMS, C programming.

Name: PRIYESH KANT (2018A8PS0467G)

Student write-up

Short summary of work done during PS-II: I was in the Backend team (Multiverse) and had to write APIs for user dashboard, create a web based DIY application, schedule automated meetings for BDMs and create bots for the sales team at Classplus.

Tool used (Development tools - H/w, S/w): Javascript, Typescript, MySQL, Node.js, Express, Postman, Jira.

Objectives of the project: To scale up the technical handling capacity of the Edtech startup which is growing at a rapid pace.

Major learning outcomes: Backend development, writing production level code, working in a team.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is really beginner friendly. The mentors are really helpful as I was provided assistance whenever I was stuck somewhere or had difficulty following a particular issue. Adequate time was provided to learn concepts on the go.

Academic courses relevant to the project: OOP, Intro to C Programming, DBMS(Only SQL).

Name: DIKSHIT GAUTAM (2018A8PS0816P)

Student write-up

Short summary of work done during PS-II: I learnt web development from scratch. We did a web development project. It involved working with MERN stack and webRTC. Socket.io was also used.

Tool used (Development tools - H/w, S/w): Node, MongoDB, React, VS Code.

Objectives of the project: Developing a social engagement platform.

Major learning outcomes: Learnt about mern stack.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is good. Company's business model is also good.

Academic courses relevant to the project: Computer Programming.

Name: KANUKUNTLA ARAVIND REDDY (2018AAPS0419H)

Student write-up

Short summary of work done during PS-II: Building an search engine and recommendation engine for Classplus platform, building node APIs, handling databases and data pipelines. Have done two POCs for the same using Neo4j GraphDB with AWS and Janusgraph with GCP.

Tool used (Development tools - H/w, S/w): Node.js, Amazon Redshift, AWS S3, AWS DMS, GCP BigTable, Kubernetes, SQL, MongoDB, Elasticsearch, Neo4j, Janusgraph, Postman, JMeter.

Objectives of the project: Building a robust internal search and recommendation engine for the platform.

Major learning outcomes: Back-end development, Handling databases, familiarity with few Dev Ops tools, AWS & GCP.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Mentors were very supportive, enough time was given to learn new things.

Academic courses relevant to the project: OOP, DBMS.

Name: RAJA ARAVIND REDDY MANIMALA (2018AAPS0475H)

Student write-up

Short summary of work done during PS-II: My project was to build a stats dashboard that displayed goals and stats of our clients YouTube activity such as number videos uploaded per week and likes per video and so on. The purpose of this is to increase our clients' social media engagement and improve their reach.

Tool used (Development tools - H/w, S/w): NodeJS, MySQL, Ubuntu, Typescript.

Objectives of the project: The objective of our project was to help our clients engage with their clients better using different social media platforms by providing them with weekly attainable goals.

Major learning outcomes: I learnt good deal of things from my PS project. I learnt the workings of a large scale company and how to work along with a team. I also understood how to better use a lot of web technologies that I had only a slight idea before. Overall, it was great learning experience.

Details of papers / patents: None

Brief description of working environment, expectations from the company: We have daily scrums of 15 minutes where we discuss the work done on the previous day and the work to be done on the present day. Every person in the company along with our mentor are very helpful and are always available for us to reach out. They have been considerate of our inexperience and

only gave us tasks that they knew we could handle and always gave a helping hand when required. It was great experience working with everyone over there at classplus.

Academic courses relevant to the project: Object oriented programming, Database and management systems.

PS-II Station: Code Argo, Hyderabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: RIDDHI ARORA (2018B2TS1169P)

Student write-up

Short summary of work done during PS-II: Our assigned project is to design and develop the user interface for the remote lab deployment, where students can perform the experiments on remotely located equipment from their personal computers using a web browser. The project is divided into three parts based on the development requirements.

Client-Side development (Frontend): Development of the graphical user interface of a website, through the use of HTML, CSS, JavaScript and Frameworks such as React JS so that students can view and interact with that website to perform experiments. Further front-end development is divided into three products based on user requirement: Student page, Faculty page and Admin page.

Server-Side development (Backend): The functionality of the website is decided with the help of the backend and it is added using the Django framework for this project. Backend is further divided into Server, application and database.

Web RDP: Another important part that has to be developed is Web RDP, through which students can connect to the remote lab server, which is connected to the equipment using a web browser.

Tool used (Development tools - H/w, S/w): Balsamiq Cloud, Visual Studio, Node JS, React JS, Postman, Django, MySQL.

Objectives of the project: This project will be built using single-page application architecture. A single page application is a web application or website that, instead of loading new pages from the server, interacts with the user by dynamically rewriting the current page's data. This method avoids interfering with the user's experience between pages, making the application behave more like a desktop application.

Major learning outcomes: The process of using theoretical knowledge for real world application. Like, the importance of entity relationship diagrams. This project helped me to learn more about web development. With an inclination towards IT, this project will help me to get an insight on how exactly a product is designed and delivered as per the industrial standards.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The PS faculty directly promoted collaboration and teamwork, emphasized positive feedback and consistently celebrated employees who succeed.

Academic courses relevant to the project: Database Systems, OOP.

PS-II Station: Cohesity Storage Solutions India Pvt. Ltd., Bengaluru

Faculty

Name: Jyotsana Grover

Student

Name: KHIMANI ABDULKADIR SALIM (2017B4A70696P)

Student write-up

Short summary of work done during PS-II: I worked as a part of Cohesity's Cloud team. Few projects I worked on:

1. Designed a resuable advanced search component with auto-suggestions like JIRA search. (C++, Golang, Angular)
2. Built UI pages and resuable UI component for Cohesity's SaaS offering.(Angular)
3. Designed and developed backend and frontend features to enhance Cohesity's Cloud Offering. (C++, Golang)
4. Implemented automation pipelines for backup workflows. (Golang, Docker, Kubernetes).

Tool used (Development tools - H/w, S/w): C++(Ansynchronous), Golang, Angular, Git, Docker, Kubernetes, Skaffold, AWS, Gerrit, JIRA.

Objectives of the project: Most of the development is done centered around the customers. If several customers asks for a feature, it is implemented. All of my projects also fulfilled customer needs.

Major learning outcomes: Good Coding Practices, OOP in a larger setting, Multihreading with C++, Angular, Golang.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is wonderful; extremely smart peers, steep learning curve, good projects even for interns, you get to work on things that are critical and that will go into production, so there are realistic deadlines and you need to plan accordingly. Each intern is given a mentor that will help you throughout your time here. Mentors are in general helpful and available, atleast mine was. You learn all the good coding practices, code reviews, work with cross functional teams, ideate and attend design reviews. On the technical side, there is also a lot to learn because the entire Cohesity software is just too huge with a steep learning curve. There are biweekly knowledge

transfer sessions where some team member will brief you on things that are used in Cohesity or in a larger tech world.

Academic courses relevant to the project: Operating Systems, Network Programming, Compiler Construction, Object Oriented Programming.

Name: RISHI SAIMSHU REDDY BANDI (2018A7PS0181H)

Student write-up

Short summary of work done during PS-II: I was assigned to the DevX team in the company and thus as part of its member I was involved in creating new tools and improving existing ones that would help the inhouse engineers in increasing their productivity through smoothening of the workflow/ automating certain tasks.

Tool used (Development tools - H/w, S/w): Python, Javascript, Golang were the tools i used the most during the internship

Objectives of the project: I worked on multiple projects during the course of the internship: 1) build a python library containing functions that would help in building automation tools for inhouse operations faster.
2) Add functions to the Company's command line tool that would query/update the data regarding various resources assigned to various users.
3) Improve the UI of the Company's resource management portal to allow bulk operations instead of handling one resource at a time.
4) Improve a ReactJs app to query huge data in pagenated form and diplay in pagenated tables.

Major learning outcomes: Building and launching React JS apps, making own Python libraries, writing APIs, value of scrum meetings.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The people expect you to take initiative and do more than expected which can cause in having more workload than normal companies as this is rapidly growing company, but the fact that everyone in my team were so friendly and never judged me on the smallest doubts I had while working there helped ease the situation.

Academic courses relevant to the project: Software Engineering, DSA, OS, DBMS were the most relevant based on my experience.

Name: ADITYA BHANDARI (2018A7PS0805G)

Student write-up

Short summary of work done during PS-II: Developed a monitor to fetch daily licensing data using API's and migrated the licesning tables from postgres to snowflake via S3 buckets. Made Tableau dashboards for the same. Also, created functions to replicate the data which were earlier present for ElasticSearch and now are present for MongoDB.

Tool used (Development tools - H/w, S/w): Golang, PostgreSQL, Snowflake, Tableau, MongoDB, Git, Docker, AWS S3, Gerrit, Jira.

Objectives of the project: 1) To build Tableau dashboards for sales team using the latest licensing data.
2) Migration of licesning data present in Elastic Search to MongoDB.

Major learning outcomes: The learnings during the course of the two projects have been immense. For the first project, I was given the responsibilty of implementing it from end-to end which was a nice experience for me. I understood a breadth of technologies: Golang, PostgreSQL, Snowflake, Tableau, MongoDB, Git, Docker, AWS S3, Gerrit, Jira.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is wonderful; extremely smart peers, steep learning curve, good projects even for interns, you get to work on things that are critical and that will go into production, so there are realistic deadlines and you need to plan accordingly. Each intern is given a mentor that will help you throughout your time here. Mentors are in general helpful and available. You learn all the good coding practices, code reviews, work with cross functional teams, ideate and attend design reviews.

Academic courses relevant to the project: DSA, DBMS,Operating Systems, OOPs.

PS-II Station: CommerceIQ – Non-Tech, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: BHAGWAT PURVA PRASANNA (2017B4A30019G)

Student write-up

Short summary of work done during PS-II: Working as a business analyst. My work revolved around automating reporting tools, generating insights from the data and analysing them, making Ad audits.

Tool used (Development tools - H/w, S/w): SQL, Python, Excel.

Objectives of the project: Automating reporting tools to save time of Engagement Managers (EMs). Generating insights from the data for advertising team to publish them.

Major learning outcomes: Developed my SQL and Python skills. Learnt how to approach any problem statement and how to look at data. Gained skills on how to analyse the data and get the story from it.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Company has a great work culture, all the people are helpful and approachable. CommerceIQ is a process oriented company rather than being a result oriented company. Good projects are offered with the flexibility to choose your projects and your team. It is definitely a good place to work at.

Academic courses relevant to the project: OS, OOPs.

Name: KETAN TARACHAND CHANDAK (2017B4A40879P)

Student write-up

Short summary of work done during PS-II: We helped product managers make decision by providing them with data needed, created and automated some reports to be sent automatically.

Tool used (Development tools - H/w, S/w): SQL, Python, Excel.

Objectives of the project: Help PMs and creating reports.

Major learning outcomes: Product related thinking, SQL, Bitbucket.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment of company is very friendly. Company expected that work be completed on time. We got to learn a lot here.

Academic courses relevant to the project: None. Although this might be because I'm from Mechanical and some CS courses might be relevant.

PS-II Station: CommerceIQ, Bengaluru

Faculty

Name: T Venkateswara Rao

Student

Name: KARAN CHAUHAN (2017B4A30873P)

Student write-up

Short summary of work done during PS-II: Majority of work was focused on database management and modifying existing SQL queries in order to accommodate the new features that company wanted to add in the website. Small portion of work was to add some data download configurations, make some UI changes, etc.

Tool used (Development tools - H/w, S/w): Jenkins, Postman, Snowflake, IntelliJ.

Objectives of the project: Database management and Software development.

Major learning outcomes: Learnt extensively about the workflow of how SQL queries are fetched form the database and how the UI is then populated. Gained experience on various Amazon advertising reports that are generated through Amazon console.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Despite it being a work from home Practice School, the environment and culture was very helpful in terms of making a transition to corporate life. Expectations were ideal, mentors were always understood the situation, gave deadlines and tasks according to it. Though at times mentors were not available but whenever they got time they were happy to help the interns out.

Academic courses relevant to the project: Object Oriented Programming (OOP), DBMS.

Name: THEJAS SASIKUMAR (2017B4A70614H)

Student write-up

Short summary of work done during PS-II: Couple of projects. First one was based on contextualised word embeddings and hence finding their similarities. Second one was about finding market share for clients on online retail platforms. Comes under the realm of data analysis.

Tool used (Development tools - H/w, S/w): AWS, Pandas, Spacy, BERT.

Objectives of the project: To find out market share in a given market for a given client on online retail.

Major learning outcomes: Pandas, data manipulation, data analysis, working with hard deadline.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: CommerceIQ places high emphasis on employee satisfaction. Everyone was extremely helpful and understanding to everything.

Academic courses relevant to the project: OOPs, DBMS.

Name: SAWANT YASH SANDEEP (2018AAPS0297G)

Student write-up

Short summary of work done during PS-II: Data Management. I created workflows for the company to make data easily accessible. I had to create OLAP cubes to make the data easier to manipulate.

Tool used (Development tools - H/w, S/w): Snowflake, IntelliJ and related supporting software, Git, Bitbucket, Azkaban workflows, AWS.

Objectives of the project: I had to create sales metrics for their webpage so clients could easily view data.

Major learning outcomes: DBMS, Web programming.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Friendly and helpful people. Flexible hours, challenging and rewarding work. Great work experience.

Academic courses relevant to the project: OOPs, DSA.

PS-II Station: ConnectedH, Delhi

Faculty

Name: Preethi N G

Student

Name: NAHATA MUSKAN (2017B4A41747H)

Student write-up

Short summary of work done during PS-II: The entire work was in two parts, where one part involved optimising the routing system for valets under time window constraints, to build an efficient collection system. This was done in Python using Google OR tools. A script implemented with necessary optimising algorithms helped in the efficient assignment and routing.
Another part involved working with various developmental tools like Vue.js, php, mongo, yii2. etc to build an interactive interface, that manages client system integrations. The primary focus of the project was the development of the server - side logic, develop and deploy new features to facilitate related procedures and tools.

Tool used (Development tools - H/w, S/w): Vue.js, Vuetify, Javascript, PHP, Yii2 framework, REST API's, Mongo DB, Python, Postman, Google OR tools.

Objectives of the project: ConnectedH is a health-tech startup that focuses on revolutionising the digital health industry with the help of a various number of products, a few key ones being the website builder, CRM, phlebo app, Client dashboard etc. The project involved working on one or more of these products to enhance the product-ability and usability of the platforms while ensuring an efficient and optimised build.

Major learning outcomes: Leant various new tech stack, frontend building, backend, integration of the two using API's, database management, API building, maintenance and manual / automated testing, Google OR tools, writing clean and reusable code etc.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: The work environment is friendly and cooperative. Tasks are assigned on a daily basis, so it is necessary to adhere to strict deadlines and produce high quality work in a limited time. It is a fast paced company so you might have to learn a lot of new things in a short time. However, since it is not a large company, you see you work going live within short time periods and actually see the impact

of your work which would not happen otherwise. The manager, staff and colleagues are all helpful and team work is given high importance.

Academic courses relevant to the project: Discrete Mathematics, Data Structures & Algorithms, Operations Research, Operating Systems.

Name: SANYAM JAIN (2018A3PS0372P)

Student write-up

Short summary of work done during PS-II: We worked on the lives projects, mainly CRM for diagnostics centre and Phlebotomist on demand service. I worked as full stack developer with main focus on developing REST APIs.

Tool used (Development tools - H/w, S/w): Yii2 (PHP based MVC backend framework), VueJS, MongoDB, Git, Postman.

Objectives of the project: Worked on the company's live products for the complete tenure. The objective was to make diagnostics labs and tests eaiser.

Major learning outcomes: - Importance of reverse-engineering.
- How non-tech skills (people skills) matter as much tech skills, even in IT jobs.
- Never over-optimise your code (wastes a lot of valuable time which could be used in developing / fixing other things).
- Importance of documentation (maintaining and reading).

Details of papers / patents: None

Brief description of working environment, expectations from the company: Being a startup in an initial stage, the company's expectation were up to the level of a full time experienced SDE. Even though, I initially started working only as a backend developer. By the PS-2 end, I had

worked on all sorts of tech-stacks used. Also the work was kind of dynamic and the requirements kept changing frequently. It was good learning experience to solve challenges and deliver the solution in time.

Academic courses relevant to the project: OS, DSA.

PS-II Station: Credit Suisse - Equity Research, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: RAAJ DHANWANI (2017B3A40641P)

Student write-up

Short summary of work done during PS-II: Helped Hedge fund clients of the firm execute their trading strategies.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: Securities lending & Hedge fund strategy.

Major learning outcomes: Understanding equity markets & the role of IBs as market makers.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: 1) A lot of opportunity to learn 2) Very much understanding managers 3) Long working hours.

Academic courses relevant to the project: Financial Engineering, DRM, SAPM.

Name: PATIL TINA SANJAY (2017B3AA0316G)

Student write-up

Short summary of work done during PS-II: The role was purely analytics based, around analysing client level data. The outputs included daily and weekly reports containing the balances movements and revenue analysis of clients.

Tool used (Development tools - H/w, S/w): Sql, Tableau

Objectives of the project: The several reports prepared during the duration highlighted global level, region level and client level activity on a daily, weekly, monthly and yearly basis.

Major learning outcomes: Data analysis, VBA, SQL, Tableau.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Fast-paced, the work has a high component of getting ready reports as per requirements from those outside the team on an ad-hoc basis.

Academic courses relevant to the project: DRM, SAPM.

PS-II Station: Credit Suisse - Global Market Risk Management, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: GARVIT MAHESHWARI (2017B2A11031P)

Student write-up

Short summary of work done during PS-II: I was in-charge of monitoring and analyzing risks on daily basis for SEA and China desk for FX and IR (Interest Rates) products. We used to analyze the VaR and its types and the sensitivities on a daily basis and infer from them about the risks. I also used to create weekly risk report entailing the changes in risks and the PnL for the week and present it in front of senior management.

Tool used (Development tools - H/w, S/w): MS Excel.

Objectives of the project: Analyze, monitor and sign-off market risk for FX and IR products for China and South-East Asia desk.

Major learning outcomes: The experience was great. Learnt a lot about how risk is managed and how important it is to manage risk on a daily basis. I gained a lot of financial knowledge like about the different different products that are traded by investment banks and how risk metrics are calculated and what's the reasoning behind them. I also learnt about time management as everything here is very time serious and teamwork and efficient communication.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is great. A lot of bitsians are here so you will feel like home. Never been to office as it was completely WFH, so dont know how the culture is there but the colleagues are great, very accomodating and helping. Always motivating during work. Everything here is very time strict. You have to be punctual, thats all they ask for.

Academic courses relevant to the project: DRM, FRAM.

Name: AKHIL ARORA (2017B3A30671P)

Student write-up

Short summary of work done during PS-II: Risk management and business development.

Tool used (Development tools - H/w, S/w): Excel, VBA, SQL.

Objectives of the project: BAU tasks majorly involving reporting and daily validations.

Major learning outcomes: Risk management for different business divisions and trading strategies.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is very good and management is friendly. Expect very good work life balance.

Academic courses relevant to the project: DRM, FRAM.

PS-II Station: Credit Suisse - Group Operations, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: DEEPAK MOONDRA (2018A1PS0053P)

Student write-up

Short summary of work done during PS-II: I am part of business transformation team within Group Operations. In this internship, I was first trained with the new tools like Flowable and Alteryx from scratch. Then, I worked on multiple projects to automate multiple processes.

Tool used (Development tools - H/w, S/w): FLOWABLE, ALTERYX, POWERPOINT, EXCEL.

Objectives of the project: Process automation and workflow management.

Major learning outcomes: Gained technical knowledge of Flowable, Alteryx and it's application in solving the daily problems arising in the company. Developed various interpersonal skills like leadership, relationship management, teamwork, time management, etc. by working on multiple projects at the same time.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is very good. Necessary training was given for a week to get us familiarized with the company structure, working and tools that are used. Expectation from Credit Suisse is only good communication skills and basic knowledge of MS Excel and PowerPoint. The team members and other employees are very helpful.

Academic courses relevant to the project: DRM, FRAM.

PS-II Station: Credit Suisse - Non-Financial Risk Management, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: SAI SRUTHI TATA (2017B3A40739H)

Student write-up

Short summary of work done during PS-II: NFRM (Non-financial risk management) division manages the operational risk of the company by keeping a close look at the internal audits control performance – monitoring / testing / gatekeeping / capital allocation. My team was involved with testing of key controls across the organization using novel methods like RCSA, ERCF and CAF procedures.

Tool used (Development tools - H/w, S/w): NA

Objectives of the project: Successfully perform testing review of three activities involving a minimum of 10 key-controls and ensuring the quality of the work produced is upto the company's documentation standards. Exploring relevant fields and networking with an aim to gain subject matter expertise in the field of testing/monitoring of internal audit controls.

Major learning outcomes: 1) Learnt about different risk frameworks like that of RCSA and ERCF.
2) Developed my intuition skills as I was handed over independent reviews.
3) Understood the foundation of key-controls of large organization and the compliance standards put in place to adhere to the company's security policy.
4) Finally, learnt about different types of internal audit controls, how they could be designed and how their operating effectiveness could be tested.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good and a supportive team with both the manager and the mentor providing constructive feedback and motivation. The work load is a borderline hectic and of course, depends on how much you'd want

to travel the extra mile in order to learn the process. My team specifically does not use any development tools and only Microsoft Excel is used at the most to document data, so the work although hectic, is interesting to learn.

Academic courses relevant to the project: Principles of Management, Business Analysis and Valuation, Financial Management.

PS-II Station: Credit Suisse - Quantitative Analysis & Technology, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: ROSHAN R NAIR (2017B3A31005G)

Student write-up

Short summary of work done during PS-II: Work done involves computing the risk associated with various trade positions the company takes in different financial assets. This is done by using statistical models in Python / Excel to model risk. You will be required to implement, modify and maintain these models based on company requirements. Typically this involves analysing large sets of data on Python and Excel using Pandas, Numpy and other similar libraries.

Tool used (Development tools - H/w, S/w): Python, MS Excel.

Objectives of the project: To compute and analyse risk of specific financial products the company has invested in.

Major learning outcomes: Risk Modelling, Data Analytics , Statistical Modelling.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work culture is good. Colleagues are friendly and approachable. Work load is manageable. Your responsibilities and tasks will increase with time and you shall eventually be treated like a full time employee. Work hours are flexible as long as you are meeting your deadlines.

Academic courses relevant to the project: FRAM, Econometrics, DRM.

Name: ARNAV JAIN (2017B3AA1378H)

Student write-up

Short summary of work done during PS-II: 1) Analysing exceptions to find different risks.
2) Identify real and escalate to risk managers.
3) Identify false positive and update in the system.

Tool used (Development tools - H/w, S/w): SQL & Excel.

Objectives of the project: Capturing and capitalising risks on live trade positions.

Major learning outcomes: Soft Skills: Formal documentation & presentation.
Hard Skills: Excel & SQL

Details of papers / patents: NA

Brief description of working environment, expectations from the company: 1) Line Manager & Mentor are very supportive and helpful.
2) Team is very experienced and knowledgeable to learn from.
3) Very peaceful, but Work load might be overwhelming on few days due to strict deadlines.

Academic courses relevant to the project: DRM, SAP, FRAM & BAV.

PS-II Station: Credit Suisse - Risk & Finance Data Analytics, Reporting, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: VIBHOR JAKHAR (2018A2PS0124H)

Student write-up

Short summary of work done during PS-II: Data validation, data reconciliation checks and calculated risk measure (VaR/IRC/ERC) checks and reporting.

Tool used (Development tools - H/w, S/w): Excel, Word.

Objectives of the project: Risk Reporting.

Major learning outcomes: Team work, time management and industry experience.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great work environment, company treats you like a FTE.

Academic courses relevant to the project: FOFA, DRM, FRAM.

Name: SEEM VYAS (2018A4PS0093H)

Student write-up

Short summary of work done during PS-II: Handling of excel databases for legal entities like VaR, SVaR, RNIV, IRC etc. for various business levels and running them on daily basis to check for any breaches.

● Due Diligence: Fact checking the financial data and numbers reported in documents / slides against official sources and marking and updating mismatching information as required.

● Preparing reports on breach analysis in VaR, limit summary, market risk reports for CS Schweiz, Nassau and Saudi branch, CSD report, Hierarchy change analysis report and book status report.

● Addressing any breaches to the respective teams and preparing a report for the same with proper reasoning.

● RNIV calculation tool using Macros

● Automated the SLA tracker file which keeps track of book locking time on a monthly basis.

Tool used (Development tools - H/w, S/w): MS excel, SQL, Macros.

Objectives of the project: Analysing and reporting breaches observed in any of the legal entities at various business levels. Finding the reason behind the breaches and keeping track of various daily activities like book locking.

Major learning outcomes: Advanced use of MS Excel, RNIV and VaR calculation models.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Focusing on automating the work as much as we can to reduce the work load, diligent work expected, compliance to all the company policies, convenient work hours.

Academic courses relevant to the project: Business Analysis and Valuation, Derivatives Risk Management, Financial Management.

PS-II Station: Credit Suisse - Risk & Finance Data Analytics, Reporting, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: GAJRAJ SINGH RAJAWAT (2018A2PS0107H)

Student write-up

Short summary of work done during PS-II: I was part of Data Quality Controls and Standards team which comes under Chief Data Office. So the job of my team is to implement Data Quality control on all the datasets coming into Compliance Application (Foundry) to improve the efficiency of capturing potential data quality issue. My team works in close co-operation with Data Governance and Data Operations team.

Tool used (Development tools - H/w, S/w): JIRA, Foundry, Collibra, Excel, VS Code.

Objectives of the project: The objective of my project was to improve the efficiency of capturing potential data quality issue of the data coming into compliance.

Major learning outcomes: Learnt how crucial it's to manage the data in order to get the most information out of it.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was great. Most of the time you don't have any deadline to finish your tasks so you can optimize you efforts accordingly. You can expect to have a lot of meetings with other teams.

Academic courses relevant to the project: Derivatives Risk Management, Financial Management.

Name: VISHESH MALEWAR (2018A4PS0562P)

Student write-up

Short summary of work done during PS-II: The role as a Credit Risk Analysis Intern in the SFT-IHC Team (CRO, DQAM) involves performing Exposure Move Analysis (EMA) for the SFT-Capital products, that fall under the FRB (Federal Reserve Board) regulatory umbrella. The work begins with the preparation of the scope and the extraction of data. The data collected is analyzed and validated to check whether the exposure moves are genuine or they have some underlying issues. If issues are found, data issues are resolved using analytical tools and methods. After the analysis is done, the role of the intern comes to tabulating and reporting the exposure moves to the BMR (Basel Measurement and Reporting) Dept. This is done on a daily, monthly and quarterly basis.

Tool used (Development tools - H/w, S/w): Softwares used for analysis: Microsoft Excel, SQL. Platforms used for auxiliary work: STAR OBIEEE dashboard, EMAX workflow dashboard, ADAPT Prod, T+1 Adjustment CRMD tool.

Objectives of the project: To perform Exposure Move Analysis (EMA) for the SFT-Capital products, that fall under the FRB (Federal Reserve Board) regulatory umbrella.

Major learning outcomes: Learnt new financial concepts and calculations involved in the validation procedure. Developed technical skills required for the role and the initiatives taken. Gained industry exposure and insights pertaining to corporate work and ethics.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment in Credit Suisse, SFT-Capital team was pretty welcoming and nourishing for an undergraduate intern. The whole team supported me from my induction to my daily work, in any

way I needed. The expectations from the company were to maintain a professional decorum while working for the team, and uphold certain corporate policies and compliance rules.

Academic courses relevant to the project: Fundamentals of Finance and Accounting, Financial Management.

Name: LANKAMALLA SRIKAR (2018A4PS1035H)

Student write-up

Short summary of work done during PS-II: My job involves monitoring the credit risk associated with various OTC trades Credit Suisse enters into with its clients. OTC products involve Exotic Options, Swaps, Foreign Exchange Forwards e.t.c. The risk monitoring parameter is the Potential Exposure (PE) a portfolio of trades have over its lifetime. The job of an analyst is to observe unusual moves, spikes or drops in PE and perform a root cause analysis for the same. The analysis is presented in the form of daily, weekly and monthly reports which are used by Credit Risk Managers to set exposure limits for different clients. Apart from periodic reports, my team also deals with random ad-hoc queries regarding various trades and metrics. These queries are raised by various teams within the bank who want a deeper analysis of portfolios with OTC products.

Tool used (Development tools - H/w, S/w): Excel, SQL, Linux, Internal Software.

Objectives of the project: Potential exposure moves analysis team is aimed to validate & explain exposure moves and breaches on daily / weekly / monthly basis.

Major learning outcomes: I had more exposure to financial products across various asset classes and got the chance to understand of life cycle of a trade and risk management concepts. I have improved my communication skills as the role required to interact with stakeholders from outside teams. I had improved SQL knowledge and analytical skills to identify the scope of issues and ability to provide appropriate solutions.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The role requires to work under strict deadlines and to scale up with internal processes quickly to contribute as much as possible. The team is very much supportive.

Academic courses relevant to the project: DRM, FRAM.

PS-II Station: Credit Suisse- Investment Banking and Capital Markets, Mumbai (Worli)

Faculty

Name: Bandi Venkata Prasad

Student

Name: ARYAN OCHANI (2018A1PS0698G)

Student write-up

Short summary of work done during PS-II: Work done is mostly related to preparation of client, roadshow presentations and deal memos, as well as research and analysis that goes into the making of these materials. Working closely with analysts across industries has been a very enriching experience and working in a fast-paced environment has proven to be an exceptional learning curve. Key tasks performed were: Industry analysis, creation of marketing materials and pitch decks for clients, due diligence, peer benchmarking and research & financial data collection.

Tool used (Development tools - H/w, S/w): Microsoft Excel, PowerPoint, Factset (similar to Bloomberg).

Objectives of the project: No individual project was assigned to me. As an intern, you are helping the various analysts and associates in their respective deals. Hence, you get to work on a wide variety of deals and get exposure to different industries.

Major learning outcomes: With time management comes efficiency, hence, over the course of my tenure, I learnt many important Excel and PowerPoint shortcuts which saved a huge amount of time in day-day operations. Became well-versed in navigating through annual reports and software such as Factset which are crucial in pulling important financial data.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: All the analysts and associates in the team are very supportive. Often tasks are given with tight deadlines but everyone is willing to help you out. Can easily approach anyone without hesitating. Company does not expect you to be well versed in investment banking, they will guide you wherever and whenever necessary.

Academic courses relevant to the project: FUFA, BAV, FINMAN.

PS-II Station: Crewscale (Goscale Technologies Pvt. Ltd.,) - Digital Marketing, Bengaluru

Faculty

Name: Srinivas Kota

Student

Name: TAMANNA SAKHALA (2018D2TS1175P)

Student write-up

Short summary of work done during PS-II: Created content for social media, generated leads, learnt about social media platforms and how to use them for attractions and leads.

Tool used (Development tools - H/w, S/w): Phantom buster, link clump, Apollo, Google ads tools.

Objectives of the project: To generate leads.

Major learning outcomes: Generated many leads for the organization.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was amazing. The people working there are very helpful and good.

Academic courses relevant to the project: DSA.

PS-II Station: CueMath Learn Pvt. Ltd., Bengaluru

Faculty

Name: Gaurav Nagpal

Student

Name: SHIVAM KASHYAP (2017B3A40554G)

Student write-up

Short summary of work done during PS-II: There were variety of work that I was doing like optimizing landing pages, look into customer funnel on the app side to make various changes

there. Some integration work was also there. I was also looking into data through Google analytics. I was also handling all the issue regarding Google tag manager.

Tool used (Development tools - H/w, S/w): Unbounce, Leadsquared, Excel, Webengage, Appsflyer, Google Analytics, Google Tag Manager.

Objectives of the project: Optimizing landing pages, Integrating tools, Funnel analysis.
Major learning outcomes: Learnt about working of marketing team, user cohort / funnel analysis, building landing pages and data analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was in performance marketing / growth team. All the things that was expected from me were taught to me or learning resources were provided to me and then I was able to work on them.

Academic courses relevant to the project: BAV, FINMAN.

PS-II Station: DBOI - Counterparty Credit Ratings, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: VISHWANATHA ISHAN (2017B3A80520P)

Student write-up

Short summary of work done during PS-II: - Worked for the Real Money Funds Team under the Counter-party Credit Ratings profile.

- As part of the RMF Team, made detailed Rating Reports of the Asset Managers domiciled in North-American / European regions.
- The Rating Report provides a rating score similar to that of S&P, Moody's & Fitch which then helps in determining the Probability of Default.
- The PD then helps in the calculation of the Expected Loss i.e., the price charged to the counter-party.

Tool used (Development tools - H/w, S/w): Proprietary DB software / Internal tool (GCRS), MS Office.

Objectives of the project: Understanding the various aspects of business and applying them to create detailed Credit Rating Reports.

Major learning outcomes: - Technical knowledge related to Asset Managers and Investment Funds.
- Professional work set-up and working of the Credit Risk Management (CRM) Department of the Bank.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: - Working environment was conducive for learning - both professional etiquette and work specific with supportive, co-operative and patient superiors who tremendously helped me to gel up in the team quickly.
- The only expectation from the team is, your are inquisitive enough. Other qualities which come in handy are - good communication skills, ability to learn and contribute, ability to provide ideas for improving existing things and most importantly - sincerity.

Academic courses relevant to the project: Fundamentals of Finance & Accounting, Derivatives and Risk Management.

Name: SAURABH RAI (2017B3AB0656P)

Student write-up

Short summary of work done during PS-II: I was part of the Developed Market - Corporates (DMCorps) team handling all the non-financial companies of Europe and the USA. My job was to analyse a given organisation's annual / quarterly results and prepare a credit rating report based on the firm's performance over that time. This should also include the information about the firm, its current growth rate, past performance and performance w.r.t its competitors in that industry.
Tool used (Development tools - H/w, S/w): BARS, GCRS, Bloomberg Terminal, MS-Excel.

Objectives of the project: Determine appropriate credit rating for a counterparty and find out relevant information, to create risk rating reports.

Major learning outcomes: Understanding basics of various industries such as software services, casinos and online betting, medical industry etc. and then use the insights to write credit rating report.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is positive in DBOI. Everyone across the floor is friendly and ready to help you out. The company expects you to do more cases thoroughly, minimize errors and not repeat the same mistakes.

Academic courses relevant to the project: Fundamentals of Finance & Accounting, Business Analysis and Valuation.

PS-II Station: DBOI - Credit Risk Data Unit (CRDU), Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: VARUN HEMANT KUMAR PATEL (2018A1PS0006H)

Student write-up

Short summary of work done during PS-II: • Worked with the Global Real Estate team to define KPIs (Key Performance Indicators) that would serve as analytical tool for top management.
• Rationalized and reduced the number of general ledger codes used to book costs in DB. Mostly Excel.

Tool used (Development tools - H/w, S/w): Excel, Tableu.

Objectives of the project: Define KPIs for cost analysis, Reduce GL codes that were redundant.

Major learning outcomes: Understanding key business perspectives to define analytical toolsets.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The team members are very helpful along the way. DB has a complex structure for new joiners to pick up. So most time would be spent in learning internal infrastructures.

Academic courses relevant to the project: FOFA to a certain extent.

PS-II Station: DBOI - Enterprise Risk Management, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: ARPAN CHATTOPADHYAY (2018A3PS0319P)

Student write-up

Short summary of work done during PS-II: Built monthly risk and capital profile reports for review by senior management. Also, prepared weekly risk reports. This is done with coordination from all risk departments.

Tool used (Development tools - H/w, S/w): Excel (VBA), MS Office, Powershell scripts.

Objectives of the project: Building reports to monitor risk levels.

Major learning outcomes: Understanding of how risk is calculated and managed in IBs.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Virtual mode, very helpful mentors and managers, excellent place to work. Expectation is learning and contributing to the team and the day to day activities.

Academic courses relevant to the project: DRM, SAPM, Fundafin, FinMan.

PS-II Station: DBOI - ERM - Automation, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: SIDDHARTH SURESH (2017B4A81020G)

Student write-up

Short summary of work done during PS-II: I was part of the Change Management team within the ERM (Enterprise Risk Management) team. It was more of a project management role than a finance role. I worked with the various teams part of ERM India to track change (changes in deadline, scope, budget, etc). Apart from this there are several automation projects to work on. Coding knowledge is very useful.

Tool used (Development tools - H/w, S/w): Excel, Python.

Objectives of the project: Project Management, Change Management, Automation.

Major learning outcomes: Basics of Project and Change Management, Risk Framework followed by DB.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very helpful working environment. There is enough flexibility for you to be able to explore various teams within ERM (stress testing, climate risk, etc).

Academic courses relevant to the project: DRM.

PS-II Station: DBOI - Finance Change, Mumbai / Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: SARODE AKASH DATHU RAO (2018A4PS0693H)

Student write-up

Short summary of work done during PS-II: I was hired in Finance Change team. So the project they took me under was known as Global Reporting, which basically had an aim to provide efficient, consistent and value-added reporting allowing the organization to focus on its core competencies. So I was given two sets of reports to automate and come up with ideas to make it more efficient. I worked mainly on Excel and Tableau (Visualization software) which I learnt on my journey of PS. We pitched the final product to VPs and other important people and got approvals for acquiring formal licenses of software and completed the dashboards.

Tool used (Development tools - H/w, S/w): Tableau, Excel.

Objectives of the project: To provide efficient, consistent and value added reporting.

Major learning outcomes: Project Management skills, Tableau skills, Communication skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was excellent with very supportive team members who also allowed me to learn new things on my journey of this PS. They were very helpful in providing whatever resources were needed and answered all my questions patiently.

Academic courses relevant to the project: DRM, SAPM, Fundafin, FinMan.

PS-II Station: DBOI - Global Valuations Group, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: KUSH SATISH GUPTA (2018A3PS0406P)

Student write-up

Short summary of work done during PS-II: Daily collection and processing of market data. Performing weekly and monthly IPVs and month end reserves calculation.

Tool used (Development tools - H/w, S/w): MS Excel, VBA, Sledge.

Objectives of the project: To perform IPV and calculate CDS reserves.

Major learning outcomes: Learnt how to perform IPV and how various valuation processes are used for different types of securities.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It was a friendly and welcoming environment, everyone was willing to help no matter how small the doubts were and also guide through various processes.

Academic courses relevant to the project: FM, DRM, FundaFin, SAPM, BAV.

PS-II Station: DBOI - Market Risk Analysis & Control, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: DEEPAL CHOUDHARY (2018A2PS0078P)

Student write-up

Short summary of work done during PS-II: The primary role of Daily Close team is fo support delivery of it's strategic, regulatory, process and automation change initiatives and forms part of strategic deployment. It stabilizes systems by implementing leading technology, applying standard functionality throughout, fully leveraging opportunities that SAP S/4 HANA Cloud offers. Deutsche Bank is in the process of migration from SAP ECC to SAP S/4 HANA. I basically worked to make this transition smooth and efficient for my team and produced mapping files to show transition codes, document structures and reports from SAP ECC against SAP S4.

Tool used (Development tools - H/w, S/w): SAP S/4 HANA, MS Excel.

Objectives of the project: The objective of my Daily Close project was to implement strategic architectural solutions to re-enginner process and controls resulting in global standardization through validated and controlled data flows into the general ledger on a daily cycle at both an entity and consolidated organization level.

Major learning outcomes: To conclude, in the project I have learnt about how we need to validate daily close data for global standardization in the general ledger. I learnt about the use of SAP S/4 HANA in the process and got trained on the software. I worked towards making the process of shifting from SAP ECC to SAP S4 smoother and more efficient for the team.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was supportive and encouraging. Everyone in the team was helpful, polite and respectful. Overall, a very pro-people place to work which encourages everyone's growth.

Academic courses relevant to the project: DRM, FRAM.

Name: BOGGARAPU S V PRANEET (2018A4PS0026H)

Student write-up

Short summary of work done during PS-II: My work involved with both equity and credit teams of MRAC. I was responsible for investigating significant changes in the risk numbers in certain desks (certain business which I have been assigned). My major work involved sending daily comments to the MRMs (Market Risk Managers) on any major day on day 1D VaR, 10D VaR, 10D SVaR and sensitivity changes for the businesses which I handle and finding the cause for changes (finding asset class, risk type and benchmark driving the change). In addition, I also worked for equity team where I had to analyze, run and submit some reports using excel and VBA. I have automated a report to python + tableau from Excel + VBA.

Tool used (Development tools - H/w, S/w): MS Excel, SAS (Visual analytics), VBA, Python, tableau.

Objectives of the project: Daily VaR analysis and reporting (Daily HistSim Validation).

Major learning outcomes: Learnt about how risk management works at investment bank, MS Excel macro and VBA, VaR calculation methodologies, exposure to Python and tableau.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: DB has a warm and welcoming culture. Even in the WFH environment everyone was easily approachable and supportive. My team was supportive and ready to help at any moment. My work involved frequent communication with MRMs all over the world and I was trained by a member from MRAC,

Germany, so one can expect international exposure. Overall employees are friendly and the work culture is great.

Academic courses relevant to the project: FOFA, DRM, FRAM.

Name: CHHAPARWAL SARVESH KRISHNAGOPAL (2018A4PS0052H)

Student write-up

Short summary of work done during PS-II: My daily tasks were to generate and deliver the reports which include India stress test report, correlation monitoring report, FIC MRM report, FIC Malaysia report, daily Pnl update report to help key stakeholders make better informed decisions. My task in the Team as of now is to automate tedious excel tasks to create efficiency in the work. Automation not only helps to make reports faster but also reduces human errors drastically. This also makes reporting well in time which is more important as it gives insights about key risk factors in a trade or investment.
To sum up, I learnt about investment bank operations and was fortunate enough to be assigned to the Market Risk Analysis & Control team. I had the opportunity to speak with a variety of people in the sector in order to obtain some insight into the corporate world. I started learning some new things like Tableau. Also I managed to create some value in the company by automating the tasks which would be very helpful in future. I got to interact with various professionals in the field was able to gain some insights into the Finance world. I got to apply my skills in real life which I had learnt. I am fortunate enough to get this role at DBOI.

Tool used (Development tools - H/w, S/w): Python (openpyxl, pyxlsb, xlwings, pandas, win32), Macro, Tableau.

Objectives of the project: Automation using Python and Tableau to create efficiency in backend tasks.

Major learning outcomes: Python, Tableau.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was not able to witness the office working environment as it was WFH but the team members were quite helpful.

Academic courses relevant to the project: FOFA, DRM, FRAM.

PS-II Station: DBOI (New), Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: RAHUL KUMAR (2017B3A30518G)

Student write-up

Short summary of work done during PS-II: (Portfolio Risk team within MRAC) Daily / weekly reporting of metrics and risk exposures for the firm's London/NY offices. Worked on market data report (daily) focused on moves in global markets and portfolio risk dashboard (weekly) focused on risk exposures of the firm across geographies and desks. Analysis / commentary on significant or concerning positions was required alongside reports.

Tool used (Development tools - H/w, S/w): Excel / Bloomberg Terminal / Tableau / Python.

Objectives of the project: Portfolio Risk Management.

Major learning outcomes: Risk reporting and monitoring in investment banks, contributing factors within market risk.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Warm and welcoming work environment with helpful colleagues / seniors. Though more general communication with office mates was cut down by the need for WFH, any and all communication within the firm was very comfortable, with the leaders happy to provide higher accountability should an intern express a desire to take more/"better" work on.

Academic courses relevant to the project: FRAM, FinMan, SAPM.

Name: AKSHAT BHATNAGAR (2018B3TS1156P)

Student write-up

Short summary of work done during PS-II: My work involved generation of Independent Price Verification reports and tracking and updating the credit worthiness of high risk securities in tandem with CRM department.

Tool used (Development tools - H/w, S/w): MS Excel.

Objectives of the project: To get a basic idea of the valuation of distressed securities.

Major learning outcomes: Advanced Microsoft Excel and valuation principles of securities.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very good work environment, helpful seniors.

Academic courses relevant to the project: BAV, DRM.

PS-II Station: Delightful Gourmet Pvt. Ltd., (Licious) – Non-Tech, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: SARVEJEET SINGH (2018A4PS0494G)

Student write-up

Short summary of work done during PS-II: Was involved in the project for category pricing and wrote all the sql queries involved in establishing a pipeline between the company and agency. Then moved to the acquisition side to help in better visualisation of the data using Python and Excel.

Tool used (Development tools - H/w, S/w): SQL, PYTHON, EXCEL.

Objectives of the project: Establish pipeline between company's data and pricing agency.

Major learning outcomes: Got a good grip on SQL.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Very good work environment, helpful team members.

Academic courses relevant to the project: CP, OOPs.

Name: RISHABH DHANDHARIA (2018ABPS0490P)

Student write-up

Short summary of work done during PS-II: During my PS-2, I worked with two teams, BI Analytics and Marketing. With the analytics team, I learnt the data structure of the company to support and fulfil analytics requirement of the customer acquisition team. With the marketing team, I was given a project which focused on improving the install to conversion metric of the company. This was under discussion by the senior management before I joined and I was given the responsibility to improve the metric. I had to do research, make recommendations, run experiments as test vs. control and analyze the data to determine whether my recommendations are impactful or not. Apart from this I was also involved in minor projects with my co-interns as well the customer acquisition team.

Tool used (Development tools - H/w, S/w): MySQL, Python, Excel.

Objectives of the project: Install to Conversion (I2C) is a metric which is impacted by the overall performance of the marketing team, from organic to performance marketing. The tech and product side of the company also affect the metric. Even how the brand value plays affects the metric and achieving that can be really helpful in company's growth.

Major learning outcomes: Technical Skills - MySQL, Excel.
I also learnt how to use Clevertap (Analytics Software) to run test campaigns and measure their impact, how the management team of a company operated. I improved my soft skills as well.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Very good work environment, helpful team members.

Academic courses relevant to the project: CP, OOPs.

PS-II Station: Delightful Gourmet Pvt. Ltd., (Licious), Bengaluru

Faculty

Name: Ankur Pachauri

Student

Name: SRUJANA N (2017A7PS0013P)

Student write-up

Short summary of work done during PS-II: Licious is a tech-driven food company that delivers meat products and is highly dependent on creating and maintaining mobile and web services to manage the food orders given by consumers. Licious' web application is known as POS (Point of Sale) which is an ERP system. Most of the web applications in the IT industry work on Client-Server Architecture. They incorporate 3-Tier Architecture structure involving - Presentation Logic Layer, Business Logic Layer, Data Source Layer. Our task as Software Engineers at Licious is to work on the first two layers and fetch data from the database. Therefore, training period was set, and small projects related to databases and REST APIs were assigned to help the interns get familiar with the work performed at Licious. The existing website is written in PHP, which is not feasible for proper maintenance and is inefficient, although fully functional. Hence, the first part of the main project was to optimize the existing PHP codebase by optimizing the database queries. By optimizing the back-end data fetching code, we increase the efficiency / performance of the API, which is highly desirable feature in the modern world of requirements. This task was known as POS Optimization. There was also a need for total revamp of existing systems, which involves creating New Front-End and Back-End services using the latest business applications, frameworks and tools. This was the second part of my main project. The outcome will be new Licious POS system.

Tool used (Development tools - H/w, S/w): Java, Spring, IntelliJ, DBeaver, Lombok, Spring Tool Suite, MySQL, Darwinbox, MySQL workbench, Terminal, Spring boot, Maven, Mockito, Github, Bitbucket, JIRA, Postman, Swagger, React, Mapstruct, Next.js, Docker, Redux, Jdbi, Vercel, Reds.

Objectives of the project: We can divide the objectives of the entire project into the following: 1. To understand and optimize the existing POS code base. 2. To focus on creating new Front-End + Back-End services for Licious POS and create smooth link between the two services. 3. To fix existing bugs in CodeBase in the meantime.

Major learning outcomes: I learnt lot of skills, techniques and technologies throughout the course of this internship. Understanding both Front-End and Back-End technology and services is essential for any Software Engineer. I was able to analyse the pros and cons of different languages and also learnt about the functionality and importance of the services for which I wrote the code. I was also able to understand and relate with the vision, mission, values followed at Licious company. I understood the product overview, product strategy, engineering roadmap and Licious architecture.

Skills: ● Coding standards followed at Licious

● Understanding codebase

● Writing good quality code

● Report writing and presentation skills

● Effective communication and collaboration with the team

● Critical thinking

Details of papers / patents: No papers / patents submitted during course of Internship.

Brief description of working environment, expectations from the company: Licious is a Gourmet Meat brand. As interns we were required to understand Licious' vision, mission and values. We had to display a passion for meat which means to be enthusiastic about the whole work process carried out at Licious. My work was related to MySQL and SpringBoot frameworks. I understood the code base thoroughly and work on tasks assigned by team head. Daily meets were conducted to check progress on tasks.

Academic courses relevant to the project: OOP (Java), DBMS.

Name: SRAVANI GARAPATI (2018A7PS0097H)

Student write-up

Short summary of work done during PS-II: I was given an individual project to build a Content Management System (CMS) using Django, Python and MongoDB. I worked on constructing the backend which includes making Django models and model forms. Our CMS enables the company to manage the banners and campaigns for the Licious App, enabling them to choose and deploy banners onto thier respective website, app, mobile site. Also, it helps the company to create campaigns by accessing segmentation service for promoting the users to their respective groups enabling them to avail services accordingly.

Tool used (Development tools - H/w, S/w): Django, Python, MongoDB, VS Code, Postman, Bitbucket.

Objectives of the project: The company wanted to handle their banners and campaigns separately from all other services in order to avoid clutter and to provide a free circulation for banner com campaign services. Hence, our App enables them to manage banners while at same time helping them to create campaigns for promoting users, by collecting the segmentation services that have been satisfied by the user.

Major learning outcomes: Learnt backend development using Django-Python, to build models and model forms and to deploy the forms in HTML templates.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company maintains a friendly working environment among its employees and employers as well. Everyone is addressed by name without any formalities and the pressure they put is healthy and bearable.

Academic courses relevant to the project: OOPs, DBMS.

Name: AKSHAT GUPTA (2018A7PS0252P)

Student write-up

Short summary of work done during PS-II: My work was majorly in the Backend web development. I had to write and migrate REST APIs from Flask to Spring Boot.

Tool used (Development tools - H/w, S/w): SpringBoot, Hibernate, MySQL.

Objectives of the project: To make a scalable and reliable microservice.

Major learning outcomes: REST API dev, Architectural and Design patterns.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: Working environment was very satisfactory. My team, Manager and Mentor were very supportive and helpful.

Academic courses relevant to the project: OOP, DSA, DBMS.

Name: DESHMUKH ATHARVA AVINASH (2018A7PS0285H)

Student write-up

Short summary of work done during PS-II: First of all, we were given information about the organization in detailed manner. After that we were assigned a project in Java, which was supposed to be fine in Spring boot framework. Also, everybody was assigned a mentor who used to help him if he has doubts regarding the project. After this project was done, I was given project which was to write programs in Java in Spring boot. These programs were used for different

purposes. Also, we used to have meeting with our mentor regarding the project update and he used to guide me if there is any doubt.

Tool used (Development tools - H/w, S/w): Intellij IDE, Pycharm, Mysql.

Objectives of the project: To create programs which are beneficial in the real world (using Spring boot framework in Java).

Major learning outcomes: Learnt Spring boot framework, also learnt how to use database related things efficiently.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was fine. The people were also friendly, they used help whenever there is any problem.

Academic courses relevant to the project: Object Oriented programming, DBMS.

PS-II Station: Development Consultants Pvt. Ltd., (DCPL) (New), Mumbai

Faculty

Name: Pavan Kumar Potdar

Student

Name: AISHWARYA JAIN (2018A2PS0084P)

Student write-up

Short summary of work done during PS-II: DCPL is basically a civil consultancy firm. My work during the the PS was related to coal based thermal power plant based in Bhusawal. The design of the structures in the power plant is done by BHEL & DCPL which is hired by the contractor Mahagenco as their consultant for the project. So, my work was to review the design documents sent by BHEL & redesign if there were any possible errors. This involved revisiting the knowledge that I learnt in various courses from design of foundation, design of rcc structures to design steel structures. It also made me familiar with IS codes. Staadpro was the primary software used along with MS excel for calculations.

Tool used (Development tools - H/w, S/w): STAADPro, MS Excel.

Objectives of the project: To apply the concepts learnt in college, to get exposure to the industry.

Major learning outcomes: Strengthened concepts of design of foundation, rcc & steel structures, learnt STAADPro, became familiar with IS codes.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It was an on-site PS, therefore I got to have the experience of working in an office. Due to covid not many people were coming to office & there were about 10 people working here. DCPL is based in Vashi, Navi Mumbai & it is a really good environment.

Academic courses relevant to the project: Design of foundations, Design of RC structures, Design of steel structures, Earthquake resistant design.

PS-II Station: Dezerv Investments Pvt. Ltd., Mumbai

Faculty

Name: T Venkateswara Rao

Student

Name: B N SAI RAJESH (2018A4PS0296H)

Student write-up

Short summary of work done during PS-II: I have done front-end stuff with react, html, js. I have done integration with clevertap, Facebook pixel. I have majorly been involved in building internal tools for customer success team using low code platform called retool which deals with mongoDB, js and api's. I have partly done some work on minikube, docker and kubernetes. I have also worked on Golang part a bit.

Tool used (Development tools - H/w, S/w): Retool, MongoDB, JS, Golang, Clevertap, Docker.

Objectives of the project: Help make internal tools for customer success team.

Major learning outcomes: Retool, MongoDB, JS, Golang.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: It was work from home.

Academic courses relevant to the project: DSA, OOPs.

Name: PRASUN ANAND (2018A5PS1002P)

Student write-up

Short summary of work done during PS-II: The project allotted focuses on analyzing the key metrics and building different dashboard for analyzing data and finding out trends. Building customer journey for user reactivation was another aspect where ownership was given. Other

part is working upon SEO and improving various factors concerning the same to rank better in SERP.

Tool used (Development tools - H/w, S/w): Google analytics, Clevertap, Hotjar, Whimsical, Figma.

Objectives of the project: Making dashboards, improving SEO and customer journey for the user.

Major learning outcomes: Analyzing customer behaviour, making dashbaords for different analysis and using different tools for analyzing.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is great where everyone is very supportive and motivated towards betterment of all.

Academic courses relevant to the project: DSA, OOPs.

Name: PRATIK LAXMIKANT PATIL (2018A8PS0019G)

Student write-up

Short summary of work done during PS-II: Developed backend part for organization's website and mobile application.

Tool used (Development tools - H/w, S/w): Golang, Python, MongoDB, VSCode, Postman, Git, HTML, CSS, JavaScript.

Objectives of the project: To develop backend for organization's website and mobile application (Android and IOS).

Major learning outcomes: 1. Understanding of backend architecture and learnt to develop backend using Go programming language.

2. Ability to develop and integrate API according to requirements.

3. Gained knowledge on database management, caching and developing DB models.

4. Working with version control systems efficiently.

5. Working knowledge of frontend skills like HTML, CSS, JavaScript, etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was WFH thoughout the PS2. The environment at work is very friendly and supportive, everyone in the team is always eager to help. They asked us about our area of interest before allotting the project roles and were flexible with the project you want work on.

Academic courses relevant to the project: DSA, OOPs.

Name: PAVAN SAI GRANDHI (2018AAPS0495H)

Student write-up

Short summary of work done during PS-II: I was a part of team that built the Minimum Viable Product (MVP) of the web application and majorly worked on the Frontend side of it using Javascript, React Js and Gatsby Js. I used React to work on website home page and main investment product. Also created a small project using Gatsby Js which uses pre-rendering concept to improve the SEO of the blog page. Apart from the web technologies, I also got chance to work on small bugs and UI issues on the Android application where I used Kotlin language. While working on the Android application I learnt how to apply OOP principles practically.

Tool used (Development tools - H/w, S/w): Javascript, React Js, Kotlin. IDE - VS Code, Android Studio.

Objectives of the project: To build the MVP application for the customers to able to invest in the financial product of the firm.

Major learning outcomes: How to create a SPA using React, Kotlin and communication skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The peers are very helpful and helped me whenever I was stuck with some issue the whole time. As it is an early stage startup this provided me an opportunity to wear multiple hats which gave some clarity on the career that I need to choose for my future. Overall, it was an excellent experience to work at dezerv.

Academic courses relevant to the project: Object Oriented Programming.

PS-II Station: Divgi TorqTransfer Systems Pvt. Ltd., - Bhosari (New), Pune

Faculty

Name: R S Reosekar

Student

Name: NAMRATA VERMA (2017B4A40232G)

Student write-up

Short summary of work done during PS-II: Project I: One of the objectives of my work was the development of a reliable and efficient platform to bring important gear data together, an elaborate system based upon MS-Excel was designed and developed, bringing up all the data across multiple files and folders together and providing seamless access to flow diagrams, that otherwise would have been much cumbersome to access. As a part of experimental testimony, the system

was tested over feedback over some end-users at the office, who all found it a lot helpful and serving its objective.

Project-II: Machining is the most common method of gear manufacturing, in which using a multi-point cutting tool speeds up the process like no other. Gear Skiving, which is highly efficient as it allows for high cutting speeds and high teeth engagement. This process, though, comes with its limitations. One of them being too much wear the cutting tool. Divgi has carried out experiments at the Sirsi plant, using Edge Preparation techniques that have shown to be effective in reducing tool wear. The same is being showcased in a journal paper for this project. I was able to learn about the theoretical aspects of it and learn the procedure for writing a professional manufacturing paper.

Tool used (Development tools - H/w, S/w): Excel

Objectives of the project: Project 1: To give the users access and a comprehensive understanding of important gear data with ease. Project 2: The objective of this project is to showcase the findings of the experiments at the Sirsi plant in a journal paper and bring the edge preparation techniques used there into industrial use; and hence improve tool life of the skiving cutter.

Major learning outcomes: In the first project, I learnt about the different components of the transfer case, one of the flagship products of Divgi. To collect the elements involed, I had to reach out to multiple people, and was able to gain knowledge about the different types of work that is there. The technical part of it was designing a user-fiendly interface for accessing all this data, on excel for which I recieved a lot of resourceful inputs and lead me to learn alot. For the second project, I understood about skiving machining process and the multi-point cutting tool in detail. And about the Edge resharpening process and machines/brushes used to bring about it, and how it impacts the tool life of the multi-point skiving cutter.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was good and upto expectation. The project was laid out well and was my worktime at Divgi has positively affected my growth. The mentor had clear idea of what needs to be done and guided me well throughout.

Academic courses relevant to the project: Machine Design and Manufacturing, Production Techniques.

Name: ANIRUDH RAMESH (2017B3A40533G)

Student write-up

Short summary of work done during PS-II: I was allotted a project in the product engineering team in the Engineering Department. My first project was regarding the production readiness of heavy duty transfer case. This project started off by getting the parts ready for assembly by making them undergo various processes like blanking, threading, hobbing, broaching etc. I got to meet various suppliers and got a basic understanding of how the above-mentioned processes are carried out. Subsequently, I checked the quality (with help of people from Quality Control) for a few parts to check their dimensional integrity. After the quality checking, I got to assemble the heavy duty transfer case with the help of my mentor and subsequently conducted leak and functional tests and finally sent it for dispatch.
My second project was involved with the designing of an End-of-Line synchronizer test stand. It started with the basic concept drawings and progressed into various design specifications and constraints. Through various iterations of concept drawings and specifications, the final CAD model was made and submitted.

Tool used (Development tools - H/w, S/w): SAP, NX.

Objectives of the project: Project 1: To make a Heavy Duty Transfer Case production ready by assisting in the manufacturing of its prototypes. Project 2: To design an End-of-Line test stand for synchronizers.

Major learning outcomes: Learnings from Project 1: I learnt about the functioning of Transfer Cases and how they are assembled. I learnt about the different processes that a component goes

through and the reasons behind it. Learnt to use SAP business to give purchase requests and about the process involved to convert the purchase requests to purchase orders.
Learnings from Project 2: Learnt about how to approach design from scratch. Learnt about concept drawings and directions in which a designer should think while developing a CAD model. Learnt about the functionality and properties of materials that are being used in the designing of test stand.

Details of papers / patents: NA
Brief description of working environment, expectations from the company: The work environment was good and the people there were friendly. The employees gave constructive feedbacks and are always willing to help whenever I couldn't understand or grasp a concept.

Academic courses relevant to the project: Machine Design & Drawing, Material Science, Advanced Mechanics of Solids.

Name: BANDARU VISHAL KUMAR (2018A4PS0567G)

Student write-up

Short summary of work done during PS-II: The present project mainly focused on developing a costing module for forging, casting and imported products. The main part of developing a module in this project was to consolidate the data by collecting it from various sources. A model has been prepared for forging and casting that can estimate the gross weights of products when we have information regarding it's net weight, periphery, density of the material used and wall thickness is needed for casting products. The data sets for forging and casting process includes all the details regarding a product as part number, product name, weights, price, etc. The data set for imported parts includes all the before mentioned attributes along with their import information like supplier address, mode of transport, import costs, quantity ordered, etc. Once the data sets are prepared all the products with their gross weights being very high when compared with their net weights are focused and the prepared model is applied on them to get an idea of the actual gross weight. The next step would be to contact the suppliers to get this gross weight

down and thus reducing the material loss, which saves us money spent on the material. For the import items the costs are analyzed and the parts on which high import costs is spent when compared with the rate at which the product is being bought and these products are focused upon. The next step would be to try altering the order quantity and checking it with the inventory costs to reduce these import costs.

Tool used (Development tools - H/w, S/w): Excel

Objectives of the project: The main objective of the project was to prepare a costing module for different manufacturing processes which is used as tool in effective cost control and in analyzing costs.

Major learning outcomes: Intro of cost analysis, various terms involved in transportation, forging, casting and other manufacturing processes.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was upto the expectations and the project was laid out detailedly and the mentor had a clear plan of the project.

Academic courses relevant to the project: Supply Chain Management and PT-1.

PS-II Station: Dr. Reddys Laboratories, Hyderabad

Faculty

Name: Samir Kale

Student

Name: NIKHIL P ITTY (2017B2A31461H)

Student write-up

Short summary of work done during PS-II: The project was about inventory management, determining timelines and action plans for batches that were delayed.

Tool used (Development tools - H/w, S/w): Excel

Objectives of the project: To eventually find out timelines and action plans for slow moving and non moving inventory.

Major learning outcomes: Excel

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment was very good and the mentor, other employees are very much helpful.

Academic courses relevant to the project: Supply Chain Management.

Name: YEGAMAMIDI KARTHIK REDDY (2018ABPS0479P)

Student write-up

Short summary of work done during PS-II: The allotted project work is about data based model building and evaluation.

Tool used (Development tools - H/w, S/w): Excel, Python.

Objectives of the project: The first pill should be right pill during compression stage in tablet making using previous data from the machine and material properties.

Major learning outcomes: Working of pharmaceutical industry, data based model building and valuation.

Details of papers / patents: No

Brief description of working environment, expectations from the company: You should be present on site and willingness to learn about industry working.
Academic courses relevant to the project: Foundations of data science, manufacturing management.

PS-II Station: Dreamplug Technologies, Bengaluru

Faculty

Name: Pradheep Kumar K

Student

Name: LAKHAN BHANSALI (2017B5A30950P)

Student write-up

Short summary of work done during PS-II: I worked on handling and improving conversion metrics of payments product CRED pay.

Tool used (Development tools - H/w, S/w): Excel, MySQL, Mixpanel, Tableau, Notion, Miro, Figma.

Objectives of the project: Improving success rate on CRED pay.

Major learning outcomes: 1. Agile Methodology 2. Product management 3. Technical communication 4. Building roadmap and strategies.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: 1. Good and Hustling work culture 2.High expectations 3. Complete ownership of projects.

Academic courses relevant to the project: TRW.

PS-II Station: Dunzo Digital Pvt. Ltd., Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: NITIN (2017B5A40976P)

Student write-up

Short summary of work done during PS-II: Under private label, Dunzo has launched its own lineup of SKUs which includes various pulses, rice, sugar and spices. I handled data analytics for private label and provided data insights (created several dashboards using Tableau) for making strategies. Helped in making plans for expansion of business to other cities and expansion of product range.

Tool used (Development tools - H/w, S/w): Google BigQuery, Tableau, Excel.

Objectives of the project: Setting up supply chain and implementing data analytics and visualisation solutions for private label.

Major learning outcomes: Tableau, Google BigQuery, Running and scaling a grocery business.

Details of papers / patents: None

Brief description of working environment, expectations from the company: We followed WFH mode so we used to have 1/2 daily review meetings and besides that I could work at anytime of day that I preferred. There was no restriction on working duration, rather it was task oriented. Work culture here is learning oriented (It's upto you, how much you want to learn).

Academic courses relevant to the project: Supply Chain Management.

Name: AKASH NAIK (2018A3PS0354P)

Student write-up

Short summary of work done during PS-II: Built a estimation model for referigerator and racks planning.

Tool used (Development tools - H/w, S/w): Shoptree, MS Excel.

Objectives of the project: Built a estimation model for referigerator and racks planning.

Major learning outcomes: MS Excel.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working hours are pretty flexible, week ends are off.

Academic courses relevant to the project: NA

Name: J V N RUTHWICK (2018A4PS0603H)

Student write-up

Short summary of work done during PS-II: There were 5 projects assigned to me over the course of 5 months. I started off working on the payments to the vendors and moved on to the monitoring of the modification rate of orders which I did till the very end. I was assigned an additional project of barcode correction of products which lasted for 2 months. I then worked on clarification of SKUs and their names. The last project I did was related to barcode correction and duplicate SKUs.

Tool used (Development tools - H/w, S/w): Advanced Excel, SQL, Redash.

Objectives of the project: To provide support to the daily operations team by monitoring the modification rate of orders and help out the catalog team in product discrepency by barcode correction and SKU image clarification.

Major learning outcomes: 1. In depth working of a dark store 2. Application of SQL and Excel 3. Payment dealings of the company.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment of the company was very good. The employees were all very helpful and were guiding. The company expects you to dedicate a lot of time and effort into the work that you do. They treat you like an employee of the company and not an intern and expect you to work like that.

Academic courses relevant to the project: None

Name: AAKASH GUPTA (2018A4PS0937P)

Student write-up

Short summary of work done during PS-II: I helped brand monetization team of Dunzo on their day to day tasks related to data analytics and operations optimization. Later on, I picked up bits related to program management within the team as well. I worked both as a support member for sales and operations folks and conducted deep-dive analysis on various aspects of user retention, brand performance on platform etc.
Tool used (Development tools - H/w, S/w): SQL (Bigquery), Tableau, Excel, Notion, Python.

Objectives of the project: To provide brand monetization team with requested insights and optimizing sampling operations carried out by the team.

Major learning outcomes: Data analytics and vizulization, Program managment and operations optimization.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Excellent work environment, Good ownership for the one who are willing to take it. Had a no. of brainstroming sessions wth team members. A no. of technical learning sessions where also held for topics like SQL, tableau etc.

Academic courses relevant to the project: Any Analytics and Operations related couse will be relevant.

PS-II Station: Dvara E Registry Pvt. Ltd., Secunderabad

Faculty

Name: Ramakrishna Dantu

Student

Name: AKULA VAMSI (2018AAPS0390G)

Student write-up

Short summary of work done during PS-II: The project is about devising and implementing a IoT prototype which measures all 7 soil parameters. It involves working with some sensors like soil moisture sensor, soil NPK sensor, temperature and humidity sensor and also soil Integrated sensor with all these working with the help of raspberry pi. After all the understanding of how to make a sensor work, we went on to observe the accuracy of these sensors by doing multiple tests on soil samples and were finally able to send the values from the sensor to a mobile application using a bluetooth module.

Tool used (Development tools - H/w, S/w): Raspberry pi, Sensors.

Objectives of the project: To device and implement a sensor which measures all 7 soil parameters.

Major learning outcomes: Getting the values out of the sensor / making the sensor work.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: This is a AgriFin Tech startup and has very kind employees who will help you in learning any of the skill which is required in your project. There are weekly fun sessions where you can chill and relieve you stress. Make sure you come to the roles such as analytics and ML. Because the company has more work and impact in that area.

Academic courses relevant to the project: Digital Design.

PS-II Station: Ecom Express Pvt. Ltd., - Data Science, Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: KALYANKAR VARAD VIJAY (2016B5A20693P)

Student write-up

Short summary of work done during PS-II: Got the opportunity to work on multiple live projects - Worked on benchmarking of an in-house geocoder with the Google GIS; computed delivery centre polygons based on load distribution clustering; developed a module for doing volatility analysis of inscan load and a corresponding workforce planner to be run on historical data and a forecasting model thereafter; and started a new project for calculation of cost per shipment, a key business indicator.

Tool used (Development tools - H/w, S/w): Python, QGIS, SQL, PowerBI.

Objectives of the project: KPI/KPM computation and monitoring of the pan-India logistical network, workforce estimation.

Major learning outcomes: Development and deployment of projects in a scalable environment, training and deployment of models and data analysis and visualization methodology.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Exciting and challenging environment to work in, broad spectrum exposure to cutting edge technologies and immense ground traction for the work we do.

Academic courses relevant to the project: Statistics, Mathematical modelling for physicists, Computational physics, Finite element methods and Geographic Information Systems.

PS-II Station: Eltropy, Bengaluru

Faculty

Name: K Venkatasubramanian

Student

Name: AALOK SINGH (2018A7PS0198G)

Student write-up

Short summary of work done during PS-II: I was hired to work on the backend part of Eltropy's messenger app. In practice, my work spanned over back end, frontend of the messenger as well as other aspects of Eltropy's product. Tasks were assigned as tickets; several of my tickets were bug fixes. Additionally, I worked on few new features for the product. Knowledge of ReactJs/Angular, Golang and Groovy is required.

Tool used (Development tools - H/w, S/w): PostgresSQL, MongoDb, ReactJs, Golang, Grails Postman.

Objectives of the project: Messenger Enhancements and Extensions.

Major learning outcomes: Gained practical experience to match my theoretical knowledge of the concerned technologies. Gained exposure to the corporate world.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Team mates are supportive. The work timings are somewhat flexible as long as the assigned tasks are completed on time, though my team has a mandatory standup meeting at the beginning of every day. Meetings can be held throughout the day/night as Eltropy is a US based company. Apart from the daily stand-up, we have to document our weekly accomplishments before the weekly all-employee meeting held on every Monday night. When it comes to work, Eltropy doesn't differentiate between employees and interns; it was a great learning experience working along side the rest of the team. The company conveyed to us that it has a policy to give full time offers to interns only just before their graduation.

Academic courses relevant to the project: Computer Programming.

PS-II Station: Eltropy –Non-Tech, Bengaluru

Faculty

Name: K Venkatasubramanian

Student

Name: HIMANSHU MOHAN (2018A2PS0105H)

Student write-up

Short summary of work done during PS-II: We were required to work on tasks which are ongoing in the company. There were some projects which were done by all interns. They include preparation of usage analytics on PowerPoint by snipping from inbuilt analytics reporting tool, data entry on various sites for registering credit unions, ticket resolution on Jira, attending various trainings which are given to credit unions to familiarize with customer success, sub-domain setups. Other than above mentioned, fortunately, I got to work on salesforce for implementation

of customer onboarding software & one other customer experience feedback software. I was also involved in drafting, scheduling & analyzing surveys conducted by Eltropy.

Tool used (Development tools - H/w, S/w): Salesforce, Customer Onboarding Software (TaskRay), Customer Experience Feedback Software (Survey Vista & Churnzero), Atlassian, Company's Product, WalkMe, Excel & PowerPoint.
Objectives of the project: Customee Success Management, Customer Jouney implementation on Taskray, Survey Vista setup & conduct of NPS surveys.

Major learning outcomes: Customer Success Management, Customer Experience Feedback & Analytics, User Experience, Soft-Skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Good Working Environment & Supportive Managers.

Academic courses relevant to the project: DSA, CP.

Name: JASH MEHTA (2018A8PS0746G)

Student write-up

Short summary of work done during PS-II: 1. Prepared usage metric reports /presentations for gauging clients engagement of the product using MS Excel, PowerPoint and Amazon Quicksight
2. Setup the subdomain and chatbot site of the product for potential clients to which our CEO, sales and customer success team were giving demos
3. Drafted reports on compliance issues for clients regarding the product
4. Led the 10DLC project
5. Provided user level training demos to clients
6. Salesforce taskray implementation
7. NPS survey

Tool used (Development tools - H/w, S/w): MS Office - Word, Excel, PowerPoint, Google Suite, Atlassian JIRA, Salesforce, Eltropy Platform, Amazon Quicksight, Slack.

Objectives of the project: To provide a seamless customer experience and a smooth onboarding process for our clients.

Major learning outcomes: Communication Skills, Presentation Skills, Teamwork, Attention to detail.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The culture at Eltropy is truly amazing. It has great work-life balance and amazing culture. The support you get from your mentors and other colleagues is incomparable. We have an all hands meeting every Monday when the entire company meets each other virtually. We also have a weekly CS team sync call.

Academic courses relevant to the project: CP

PS-II Station: Ernst & Young Services Pvt. Ltd., Gurugram

Faculty

Name: Jyotsana Grover

Student

Name: B SIVARAAMAN (2017B2A81314H)

Student write-up

Short summary of work done during PS-II: I worked on the monthly sprint tasks assigned to me. I completed phase I and II of the designing the demo portal for EY global e-invoicing.

Tool used (Development tools - H/w, S/w): Angular, Java, Hibernate.

Objectives of the project: Work on monthly sprint tasks for a live portal. Help design and develop a demo portal for a client.
Major learning outcomes: Java, Hibernate, Angular, TypeScript.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good working environment and very helpful team. The partners of the firm will try to arrange working with various people in the company and in various projects to give a good exposure. This is good both for the firm and the student. They have various projects going on and can request the seniors if they wish to work on a particular team. Work done is highly noticed and appreciated.

Academic courses relevant to the project: Object Oriented Programming.

Name: PRANIT RAJENDRA SETHIYA (2017B4AA0802G)

Student write-up

Short summary of work done during PS-II: I was working with EY Tax Technology and Transformation (TT) team. My first project involved automatic web scraping of data from Income Tax portal site. My second project was related to Big Data which involved data cleaning, data processing and data analysis of huge Excel data sets of TCS (Tax Collected at Source) data of major EY Tax clients.

Tool used (Development tools - H/w, S/w): Python, Pandas, Selenium, ChromeDriver.

Objectives of the project: Objective of the project was to collect and extract data from Income Tax Portal so that it can be used for another EY application. Second project was related to Big

Data engineering of TCS (Tax Collected at Source) data using Python. Objective of the project was to process and clean the data to prepare data to determine the tax liability and tax outflow of a client for the month.

Major learning outcomes: Learnt about webscraping and automation using Python, Selenium, Selenium Web Driver API and ChromeDriver. I also learnt about certain things related to handling of Big Data & Analytics using Python.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is good and friendly atmosphere. All the employees are very kind and patient while helping you. They do ask for your interests, skills and try to give projects based on that. The company expectation is to be available anytime for work and readily contribute when the need arises.

Academic courses relevant to the project: OOPs.

PS-II Station: Everwell Health Solution, Bengaluru

Faculty

Name: Sonika Chandrakant Rathi

Student

Name: BHAVESH ARORA (2017B2A10593P)

Student write-up

Short summary of work done during PS-II: I developed both the frontend and backend of a web app (dashboard). I fetched data from Gitlab GraphQL API using GraphQL API queries by passing specific parameters in the queries and received the data in backend. I used FLASK /

Python as backend server. For the frontend, I used VueJS as javascript framework and received data from backend through HTTP get request by using axios. I developed many reusable and dynamic components in the frontend. All of the components were dynamic and displayed different data based on the router link param.

Tool used (Development tools - H/w, S/w): Python, Flask, VueJS, GraphQL, VS Code.

Objectives of the project: The objective of the project is to provide a platform to automate and monitor engineering progress. This platform was tightly integrated with gitlab through REST / GraphQL APIs to collect data, derive metrics and expose dashboards. Some tasks such as sprint metrics collection, migration of tickets between sprints were also be automated.

Major learning outcomes: I gained knowledge about API and API queries Python, Flask, Javascript and how to fetch data and transfer it to frontend.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Company culture is very good. All the employees are very helpful and you can even connect with the higher level employees like CEO, COO very easily if you want. They don't expect 100% understanding of things and code from day 1.

Academic courses relevant to the project: OOP, DSA.

Name: AYUSH SINGHAL (2017B2A40605P)

Student write-up

Short summary of work done during PS-II: Worked with development team on design and implementation of unit tests for some under-development and developed APIs. Worked on increasing the code coverage over the platform.

Tool used (Development tools - H/w, S/w): C#, Git, Postgres, xUnit, OpenCover, Report generator.

Objectives of the project: The major objectives of the project was to increase the test coverage of the different models and controllers.

Major learning outcomes: Backend web development, working with databases and unit testing.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I'd say the working environment was pretty good. The mentors were very cooperative. We were expected to work for 5 days a week and had flexible timings.

Academic courses relevant to the project: Object oriented programming.

Name: ANUBHAV AJMERA (2018A4PS0054P)

Student write-up

Short summary of work done during PS-II: Developed an Oxygen Management Dashboard to be used by governmental agencies to track production & distribution of oxygen throughout the country. Worked with a team of 3 developers including a senior developer & backend developer.

Tool used (Development tools - H/w, S/w): VueJS, Quasar, Jest, JSDoc.

Objectives of the project: Develop an O_2 management dashboard.

Major learning outcomes: Team Work, Working in professional work environment, Working in deadlines.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Decent working environment & people help each other in learning & exploring.

Academic courses relevant to the project: OOPs.

PS-II Station: Express Stores - Business Analytics, Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: ADITYA SINGH (2018A4PS0113H)

Student write-up

Short summary of work done during PS-II: Worked with Api, reports and automation.

Tool used (Development tools - H/w, S/w): Python

Objectives of the project: To optimize / automate the process

Major learning outcomes: Python, Excel, Sql, Appsheet, Google Data Studio.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company is in early stage and hence learning here is very open and interesting for business side. The work is demanding but good. The team is understanding and ready to help.

Academic courses relevant to the project: CP.

PS-II Station: Express Stores - Tech, Gurugram

Faculty

Name: Pravin Yashwant Pawar

Student

Name: ADITYA ROSHAN PATRO (2018A4PS0481G)

Student write-up

Short summary of work done during PS-II: My role was that of a FullStack developer, We were given around 2 weeks and online resources to learn the relevant tech stack (Django, Postgres, AWS, React.JS) and then started contributing to the project. We participated in the industry relevant AGILE process and were given task from all applications that the team worked on. The team has a non-hierarchal structure hence ensuring smooth communication with everyone in the team. We were assigned mentors at the start who would familiarize us with the project and review our code. We slowly started owning tasks on our own and presenting it to the product team and even had direct communication with them regarding the details of the task. Overall, the experience was enriching and demanded a lot of attention and focus. I would recommend if you like to work hard as hours though flexible would be demanding.

Tool used (Development tools - H/w, S/w): VScode, Android Studio, Postman, PGadmin / Dbeaver, Postgres, Bitbucket, Jira, Confluence.

Objectives of the project: Fullstack development of application for supplu chain and inventory management.

Major learning outcomes: Software development.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment is very open and friendly but the developers are excepted to take ownership of their tasks and deliver within the time period. The other developers are extremely helpful and would increase both software and hardware skills. They encourage open discussion and new ideas to be implemented to increase efficiency and ease of working.

Academic courses relevant to the project: DSA, OOPS, DBMS, SQL, Python, Django basics, HTML+CSS+JS.

Name: P HIMA VARSHITH REDDY (2018A8PS0800G)

Student write-up

Short summary of work done during PS-II: Full Stack Development Intern: Worked as a Backend Developer for an Omnichannel startup using Python, Django framework, PostgreSQL Database, Git for version control and Postman for API Testing. Followed Agile methodologies such as Scrum using Jira and Confluence.

Built APIs for Ordering application, created design documents and Implemented test driven code. Also worked on several Optimization Tasks, Bugs, Model creations, Script for moving images to AWS S3 service and Data Propagation from third-party API's provided by companies like Paytm, Pyrops, Zoho.

I was able to successfully resolve certain bugs related to propagation of the data to various tables and also I was assigned certain tasks to analyse the code and optimize it to reduce the response time which I was able to complete as planned. I created 2 APIs for Uploading certain product related requests from the MEs to the Google Sheets. All the above results including Design Docs, Code Implementation which I have completed were thoroughly reviewed by the mentors. Along with that testing was also an integral part of all of my tasks. I have created Unit Test Cases and on my local system and then for testing I performed System Integrated Tests on my system and then in the staging area. Created Dashboards on new relics by triggering and capturing custom

events to analyse business metrics, and monitor API performances. Majorly worked on Query and Code optimization tasks in the backend and tried to reduce redundant code with proper organization, following Object Oriented Principles for clear understanding . I have created several tables in the admin panel using django models and validated the data and wrote SQL queries for Data propagation across the tables. I also worked on a script on the backend to move all the existing images which were using django image functionality to Amazon S3.

Tool used (Development tools - H/w, S/w): Python, Django, React.js, PostgreSQL, Amazon S3, Git, New Relic, Postman, Confluence, Jira.

Objectives of the project: Creating a design document for project setup on Windows system. Adding backend logic / code for various types of Filter functionality in the ME App for easing the ordering for the ME's and also Optimizing the code to reduce the response time. Adding backend logic / code for sorting functionality for the products in the ME App for speeding up their decision making process Creating API (adding backend logic / code) for uploading certain product related requests from the MEs to the Google Sheets, this will be used for propagation of data in the future. Implementation and creation of APIs in the backend linked with various other processes for the ME. Creating an API by using the ongoing transactions and creating bills in third party Apps. Resolving bugs faced during propagation and adding certain models required as per the tasks. The problems I solved included a recursive and backtracking approach. For one of the tasks, I have to integrate google sheets API and third party APIs into the codebase. To move existing images from Django to AWS S3 bucket service and automate image upload from the django admin create, validate models and propagate data using SQL queries. Create dashboards on new relic software which helps in monitoring API performances. Optimize code and refactor queries by following concepts of object oriented programming.

Major learning outcomes: Good grasp and knowledge about Django, Git, creating APIs, Testing (API) URL endpoints on Postman since I was continuously working on them for the past 5 months. I was able to learn things quickly, receive help and adapt to the situations and solve complex problems in the tasks which helped in improving my accuracy, DSA & OOP knowledge, Python skills and problem solving approach.

Got to learn about AWS S3 service and integrate it in the codebase which was very interesting and a good skill to learn.

One of the Key learnings in the last few months of internship was ability to write and understand SQL queries.

Time Management, team work, improved my communication skills, ability to cope up with the corporate world and their work environment, good Grip on Javascript, React.js.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Initially, we were given 10 days time to learn the tools and technologies required for working with the team as per the onboarding. Our company works in SCRUM methodology, where we use Atlassian products such as Confluence for documenting everything we do, Jira for tracking and tickets for tasks and finally Bitbucket for PR review by fellow team members. Here the work is well mannered and planned in sprints (time span of 3-4 weeks). So I was part of the Tech Team and we were assigned the tasks which were planned by our mentors throughout the sprint. Work timings are usually from 9am to 5pm, except for some days where the work gets extended so that we have to complete before the end of the day for not causing any spillovers. The Team also conducts Tech Talks every Wednesday and fun activity every Friday, for sharing knowledge and better interaction within the team and also to promote the work culture. So as a part of the learning curve I have learnt Django, Git, brushed up with Python and learnt a few basics of PostgreSQL Later I was part of the Sprint planning and I was assigned small subtasks initially, to get in with the flow. In the subsequent sprints, the workload and also the amount of learnings happened and time occupied for work and also the expectations on me went high. So furtjer sprints, my work was mostly involved in backend, user stories were groomed by the product team, tasks, sub-tasks, and bugs were assigned by the mentors as the part of the sprint. The progress was daily tracked in everyday standup calls in the morning, where we gave our updates. So after the first week of September, we were told to learn front end frameworks like React.js, Next.js, Redux Saga as they were planning to work for frontend development in the upcoming Sprints.

Academic courses relevant to the project: Data Structures and Algorithms, Object Oriented Programming.

PS-II Station: Express stores – Non-Tech, Gurugram

Faculty

Name: Sudeep Kumar Pradhan

Student

Name: SHIVAM DINESH AGARWAL (2017B1A30616G)

Student write-up

Short summary of work done during PS-II: Strategic planning, business communication and management.

Tool used (Development tools - H/w, S/w): SQL, Google Sheets.

Objectives of the project: To increase efficiency of operations and improve communication between the various departments.

Major learning outcomes: 1) Strategy and Planning 2) SQL and Google Sheets 3) Business Communication and Management.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: The work environment was pretty encouraging and ownership driven.

Academic courses relevant to the project: CP.

PS-II Station: FlashPrep, Bengaluru

Faculty

Name: Seetha Parameswaran

Student

Name: PHILIP J ALAPPAT (2017A3PS0280G)

Student write-up

Short summary of work done during PS-II: We get to implement the new features in the android application (client side) as well as to fix bugs.

Tool used (Development tools - H/w, S/w): Android Studio.

Objectives of the project: Build and debug new features to a live android app.

Major learning outcomes: Android Studio, Kotlin, F

Details of papers / patents: Android App development

Brief description of working environment, expectations from the company: Work is flexible as long as you complete assigned tasks within the deadline. Responsibility for own work is expected.

Academic courses relevant to the project: Object Oriented Programming.

PS-II Station: Flipkart (Software Development), Bengaluru

Faculty

Name: Vineet Kumar Garg

Student

Name: KSHITIJ VERMA (2017B1A71145H)

Student write-up

Short summary of work done during PS-II: The team allotted to me was the product page team. The goal of the project is to perform "Widget Migration". The product page on Flipkart has several widgets that are displayed. As currently some of the widgets of the Product page are served from ROME (a service in Flipkart), my work is to do backend development and migrate the desktop widgets from ROME to a new service called Astra with enhanced functionality like the rule based widget display. Key features are:

1) Successful completion of existing code.
2) Complete the migration from ROME to Astra.
3) Testing the widgets for the data on the product page of Flipkart.

Other than Widget migration, I worked to improve the product compare feature on the product page of Flipkart by adding aspect rating feature, thus enhancing user experience.

Tool used (Development tools - H/w, S/w): Java, IntelliJ, Python, Postman.

Objectives of the project: Widget migration, Widget breakdown, Functional tasks.

Major learning outcomes: Backend development in Java, Handling large JSON data, Optimised and well structured code.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: The working environment is very good. Team members were always there to help whenever I got stuck. Sufficient time was given to learn and complete the tasks. The work life balance is pretty good. Company just expects sincere employees with willingness to learn new stuffs.

Academic courses relevant to the project: Object Oriented Programming (very useful), Data Structure and Algorithms.

Name: BADJATE AMAN SANJAY (2017B3A70559H)

Student write-up

Short summary of work done during PS-II: I was asked to build a new microservice which would basically tell the status of particular processes of warehouse. There are multiple processes in warehouse. For each process, I was to find out the number of order items in their respective sub-processes.

Tool used (Development tools - H/w, S/w): Java, K8.

Objectives of the project: To build a new microservice.

Major learning outcomes: Building scalable service, Backend development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Since, it was remote, mainly meetings were very friendly and work culture was also nice. People are supportive.

Academic courses relevant to the project: Object oriented programming, DBMS.

Name: DIVYA TYAGI (2017B3A70727P)

Student write-up

Short summary of work done during PS-II: My work was on developing proof of concept on react server components. For the same, I have created Flipkart product page with 6 widgets using React, React-Router, Webpack, NPM and a server to serve static assets using Node.js and express. For the poc, I have build the page once using traditional react components and then using react server components. Then, I compared the bundle size and the performance metrics for both cases. Also, I investigated the potential problems and blockers while using server components in the production.

Tool used (Development tools - H/w, S/w): Github, Vs Code, Reactjs, Webpack, Babel, Express, Chrome developer tools.

Objectives of the project: Using react components: 1. To reduce the bundle size 2. To find problems and limitations 3. To analyse the performance of web page.

Major learning outcomes: I gained the exposure of working in corporate. The major learning outcomes are in the form of new frameworks and technologies like - git, reactjs, webpack, babel, express, handlebars, debugging code, chrome developer tools, etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work culture is very good at Flipkart, my mentors and manager were also very helpful and friendly. In the beginning, I was given sufficient time to learn and my mentor constantly helped me in doing same. Other team mates also always ready to help me out, overall I really enjoyed during my internship.

Academic courses relevant to the project: None

Name: SWAPNIL AGARWAL (2017B3A71343H)

Student write-up

Short summary of work done during PS-II: Developed a software which had the following functionalities:

Scraping:

• Scraped the websites - GSM Arena, NDTV and the Verge, for articles and ratings given by tech-experts, about mobile phones.

• Scraped data was stored in MongoDB.

Processing:

• Developed and fine-tuned Machine Learning models to extract sentiments, keywords, paragraph summary and one-line summary from any text article.

• The scraped articles were fed into Machine Learning models to extract meta-data (sentiments, keywords, paragraph summary and one-line summary) from the articles.

• Articles along with the extracted meta-data were stored in MongoDB.

Serving:

• Developed a JAVA DropWizard application to deliver the best ranked article's metadata (based on the devised ranking algorithm) over an API call, whenever the user searches for a mobile phone.

Tool used (Development tools - H/w, S/w): Python, Java, MongoDB, Git, Postman.

Objectives of the project: The project aimed to introduce a new feature on the Flipkart platform. This new feature's objective was to help the users choose the right product from amongst many alternatives in the marketplace. This objective was achieved by providing users with ratings, reviews, articles, etcetera from various tech experts around the internet, on the Flipkart platform itself. This way, the users could save time to do an extensive survey about the products and make the right decision about the product that best suits them.

Major learning outcomes: The project helped me learn about Web scraping in Python, BART and BERT based Machine Learning models, MongoDB and JAVA DropWizard. The overall experience helped me learn about the process of developing a feature and productionizing it.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work-life balance is great. No strict in-times or out-times; if you are completing the assigned work, you are

good to go. Colleagues are understanding and helpful. Company follows a flat hierarchy so one can connect with anyone without hesitation.

Academic courses relevant to the project: Object Orient Programming, Database Management, Machine Learning.

Name: KOTIKALAPUDI VENKAT KARTHIK (2017B4A70927H)

Student write-up

Short summary of work done during PS-II: Widget migration was the main task where the desktop widgets allotted had to be migrated from the platform Rome to the new system Astra. Astra is the new platform that serves the widgets on the product pages. Understanding the architecture of both the platforms was essential post which the development and testing process was done. Widgets are the components on the Flipkart web pages or app.

Tool used (Development tools - H/w, S/w): JAVA, Excalibur, AeroSpike, Maven.

Objectives of the project: The objective is to migrate the desktop widgets to the new system.

Major learning outcomes: Got to know how the Widget data is being served from the back-end from both the systems and how the data is reused and latency reduced in the new system.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was really good. There were regular meetings with the team where the problems (if any) and updates for the tasks assigned were discussed. The team members were really supportive, friendly and helpful. Overall, it was a good learning experience.

Academic courses relevant to the project: Object Oriented Programming, Software Engineering, Computer Networks.

Name: PALEM MANEESH REDDY GONEGARY (2018A7PS0462H)

Student write-up

Short summary of work done during PS-II: Migrating our services to a kubernetes cluster on the cloud and run NFR tests for our services.

Tool used (Development tools - H/w, S/w): Kubernetes, Docker, Locust, other in-house tools.

Objectives of the project Ready our services to be ported to a Kubernetes cluster in the future.

Major learning outcomes: 1) Kubernetes 2) Docker 3) Locust.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Great environment, helpful colleagues and stress-free environment.

Academic courses relevant to the project: OOP.

PS-II Station: Founding Years Learning Solutions Pvt. Ltd., Bengaluru

Faculty

Name: Y V K Ravi Kumar

Student

Name: KUNWAR PRASHANT (2016B2A10615G)

Student write-up

Short summary of work done during PS-II: I was involved in end to end design, management and updating websites as well as management of LMS.

Tool used (Development tools - H/w, S/w): Wordpress, PHP, SQL, HTML, CSS, Javascript.

Objectives of the project: Website creation and management.

Major learning outcomes: End-to-end designing of web portals / websites, Management of LMS and other active websites.
Languages / Framework Learnt : PHP, SQL, HTML, CSS and JavaScript.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: - Created 250+ pages with responsive design on WordPress.
- End-to-end designing and creation of Klaytopia product subscribed by 1000+ families in the first month of launch.
- Optimization of existing websites and adding new features.
- Management of Learning Management System.
- Daily updation and management of active websites.

Academic courses relevant to the project: Computer Programming.

PS-II Station: Genpact, Bengaluru

Faculty

Name: Vimal S P

Student

Name: SHUBHAM KUMAR (2017B4A30712G)

Student write-up

Short summary of work done during PS-II: Initial phases of the PS were mostly learning where we were told to complete some Kaggle courses and Intro to ML by Andrew NG on Coursera. Later I was assigned a project titled, "Speech Emotion Recognition". I was required to build a ML/DL model to detect the emotion from the audio recordings at an interval of 3 seconds. I extracted MEL Coefficients, Chroma and Frequency Spectrum between 100Hz-400Hz from the audio signal after re-sampling the audio to 16kHz which were then fed to different ML/DL models. The final model selected was an ensemble model comprising of BERT for test sentiment analysis, 1D-CNN for gender detection and multilayer 1D-CNN along with the output of BERT and 1D-CNN for emotion detection. After completion of the model, I also created small Python Dsh app with real-time emotion rcognition for model demonstration.

Tool used (Development tools - H/w, S/w): Python, Keras, NLTK, AWS, Jupyter Notebook, Dash.

Objectives of the project: The main objective of the project was to create a ML/DL model to detect emotion from the recorded speech data.

Major learning outcomes: Learnt to use Librosa and PyAudio for feature extraction from a sound fie. Got to know about different ML/DL models like LSTM, BERT and CNN models as well as Python Dash.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The learning outcome was great. I was looking for a domain switch from IT to data science and I was clueless

about where to begin. At first, I was suspicious about the role but as the PS progressed I learnt a lot about different ML/DL techniques and became confident in implementing them.

Academic courses relevant to the project: Machine Learning, Neural Net and Fuzzy Logic, DSA.

Name: PARTH BATRA (2017B4A40871P)

Student write-up

Short summary of work done during PS-II: Data mining based customer segmentation based on purchase history, invoice paying history, historical order details and frequency to divide customers into different tiers in terms on business relationships. Tested various Unified and Firm based models. Make a web based editor in Flask to help teams edit their respective columns and not given access to full sheets with 30+ columns. Scaling it for several hundred edits per day on more than 60k+ rows without database and timely sync data into Excel back-end to maintain backup too.

Tool used (Development tools - H/w, S/w): Python, Pandas, Numpy, Scikit-learn, NLTK, Flask, JavaScript, Ajax, HTML.

Objectives of the project: Have better insights on client's customers, scalable Excel editor web-app.

Major learning outcomes: Feature Engineering and WebD optimization.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: All managers, senior managers and colleagues are very soft spoken and helpful in every scenario. They

understand your concern and guided me as and when required. I was facing some problems and was given help from experts from different teams which helped me a lot during my whole PS. There's lot to learn and take part in here and managers even encourage you if you come up with initiatives.

Academic courses relevant to the project: DSA, Applied Statistical Methods, OOP.

Name: AYUSH TEWARI (2017B4A80622G)

Student write-up

Short summary of work done during PS-II: Data analytics using Python and MS Excel.

Tool used (Development tools - H/w, S/w): Python, MS Access, MS Excel, Jupyter-lab.

Objectives of the project: Analyse company's data and find some trend for prediction.

Major learning outcomes: Learnt to analyse data using and without using a coding language (Python).

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: Good working environment. The company expects you to complete the work before a deadline.

Academic courses relevant to the project: NNFL

PS-II Station: GenY Medium, Hyderabad

Faculty

Name: Anjani Srikanth Koka

Student

Name: VISHAL ALAMANDA (2016B5A20050P)

Student write-up

Short summary of work done during PS-II: Analysis of digital marketing.

Tool used (Development tools - H/w, S/w): Excel, Google Ad words, Facebook Ads Manger.

Objectives of the project: To work as a digital marketing analyst.

Major learning outcomes: An understanding of the digital marketing sector and necessary knowledge for handling clients online.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment of the company is excellent. Every one unto and including the CEO is very approachable. There is a focus on upskilling and improvement of both the individual and the team as a whole.

Academic courses relevant to the project: DSA, OOP.

PS-II Station: Glocol Networks (IOT and AI), California

Faculty

Name: Pravin Yashwant Pawar

Student

Name: CHINTHALAPALLI ABHINAV MOHAN (2018A3PS0549H)

Student write-up

Short summary of work done during PS-II: My work includes collection of train schedule data from a website and automating it and creating a user friendly interface for the data collected. Additionally, I worked to extract and process the data from the sensors which collected data as they were programmed earlier by us and created backups and hosted data to a dynamic webpage for downloading securely in dev stages. Next we created a dashboard for representing the data collected for client company (CCJPA). We also created and tested APIs for pushing out the same data.

Tool used (Development tools - H/w, S/w): Raspbian devices, AWS services, OpenSSH, Spyder, Postman, Github.

Objectives of the project: Tracking real time occupancy data for CCJPA (and future client) trains.

Major learning outcomes: Learnt about the AWS services, SSH, API development, standard security protocol for data transfer and how to change them to our use case.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company is a startup focusing on smart city technologies and makes deals with client companies to build smart systems for them. It has few big names like Cisco, Caltrans, US dept. of Homeland security to its client list. The expectations of company would be changing based on their current dealings, but they would expect you to learn fast during the initial weeks and teams are generally in size of 4-5. Since it is startup you are given more responsibility.

Academic courses relevant to the project: Object oriented programming, Software engineering, Machine learning.

PS-II Station: Goldman Sachs - Investment Banking, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: SHAH RAHIL HIMANSHU (2017B4A70446G)

Student write-up

Short summary of work done during PS-II: Part of Debt Capital Markets Origination team in the Financing Group of the IBD.
Summary of Work: Positioning of credit story for Sovereign and Support for upgrading rating from agencies like Moody's, S&P and Fitch, End to End Bond and loan execution for several corporates and sovereigns, client servicing, derivatives and risk management.

Tool used (Development tools - H/w, S/w): Bloomberg, Dealogic, Bondradar, Capital IQ, Factiva, MS Excel, MS PowerPoint and several GS proprietary tools.

Objectives of the project: The objective was to help in maintaining and expanding coverage of clientele in my region. This includes client servicing, bond executions, etc.

Major learning outcomes: Learning outcomes are limited in the first 2 months as its like a period of intense work in IB. However you get a chance to improve soft skills, interact with clients, improve presentation skills. The exposure is also decent since you might get to work with big corporates, sovereigns ministries of finance among others.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: It is extremely rigorous, work hours were roughly 14-16 h a day from Sunday to Friday (i.e. 6 days a week). There are multiple assignments, deadlines and always some one chasing you. So one has to learn to become efficient fast and based on how fast you take up responsibilities you will be allowed to grow.

Academic courses relevant to the project: Security Analysis and Portfolio Management, Business Analysis and Valuation, Derivatives and Risk Management, Financial Management, Fundamentals of Finance and Accounting.

PS-II Station: Goodera - Product Management, Bengaluru

Faculty

Name: Vimal S P

Student

Name: PRANAV MEHTA (2017B2A40437G)

Student write-up

Short summary of work done during PS-II: 1. Helped automate certain tasks such as sending thank you emails to participants after a particular event and sending cold emails to potential clients via Zapier.
2. Created Dashboards on Google Data Studio and Tableau which helped clients understand their ROI on the various CSR activities they participate in.
3. Created numerous spreadsheets using MySQL and Excel for various departments.
4. Involved in extensive data collection, collation and analysis for projects ranging from Education, Rural Development, Financial Literacy and Healthcare.

5. Created various help articles and suggested various FAQs on relevant pages. This helped in reducing L0 support tickets by approximately 15%.

Tool used (Development tools - H/w, S/w): Google Data Studio, Zapier, Tableau, MySQL, Excel, Google Sheets, Canvas.

Objectives of the project: Didn't have a specific project. Usually helped my mentor in his day to day activities.

Major learning outcomes: 1. Enhanced my Excel and MySQL skills 2. Enhanced my technical skills set by learning Google Data, Zapier and Canva 3. Got a firsthand experience of working in a startup.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was great. My mentor and his boss were extremely warm and understanding. Had a great onboarding experience. In the first week all the interns were given a brief intro about the organization and were made aware of the various departments that were there in the organization. We were given a free choice in selecting the department that we would like to work in and the one which would align with our skill set. The entire PS experience was great and pretty much turned out to be what I expected from it.

Academic courses relevant to the project: CP, POM.

Name: PRAJITH KUMAR THOMMUNDRU (2018A2PS0149H)

Student write-up

Short summary of work done during PS-II: My role in Goodera involved handling and maintaining the volunteer events' lifecycle management - curating opportunities, pitching, onboarding, and setting up the flow of services for new clients, handling the end-to-end execution

of these volunteering events, and finally closing the loop by sending out the Goodfies, providing a smooth and engaging experience while volunteering events for our clients, virtually.
Tool used (Development tools - H/w, S/w): Goodera proprietary tools, Microsoft Office Suite, Postman, Zapier, Hubspot.

Objectives of the project: To maximize the revenue, provide utmost client satisfaction, and onboard as many new clients as possible.

Major learning outcomes: Effective Communication and Presentation skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Supportive team members.

Academic courses relevant to the project: PoM

Name: BUDIREDDY RAM SAMPREETH (2018A4PS0122H)

Student write-up

Short summary of work done during PS-II: Designed and developed a web application on bubble.io, a no-code platform for onboarding nonprofits. Used python and selenium to scrape data from LinkedIn and other popular sites, webscraper.io tool to scrape various directories available online. Familiarized with excel and its function to maintain a clean database of nonprofit contacts.

Tool used (Development tools - H/w, S/w): Python, Selenium, Excel, Google sheets, Hubspot crm tool, Webscraper.io, bubble.io.

Objectives of the project: Platform development and data sourcing.

Major learning outcomes: Google Sheets, Python.
Details of papers / patents: None

Brief description of working environment, expectations from the company: Goodera is an excellent company with a friendly and constructive work environment. I've gained knowledge in various fields, from hiring candidates to software development. I would be very grateful for further collaborations in sponsored projects with them.

Academic courses relevant to the project: Computer programming.

Name: TANISHQ GULATI (2018A4PS0524G)

Student write-up

Short summary of work done during PS-II: My work involved was in the product team, which involved driving engagement of the sustainability product. Majorly the work was of data storytelling through metric analysis, creating PRDs & feature documentation, coming up with product strategy and building internal products to help growth & business team.

Tool used (Development tools - H/w, S/w): SQL, Tableau, Figma, Firebase, Excel, MS Office Suite.

Objectives of the project: To drive engagement of Goodera's B2B SaaS product.

Major learning outcomes: I learnt a lot about Product lifecycle management. I learnt how to create product strategy, handle data storytelling through metric analysis and communicating with tech and business teams to achieve same business & user goals.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is very good. Everyone is helpful and understanding, and appreciate the good work done.

Academic courses relevant to the project : Engineering optimization, business communication, professional ethics and business analysis and valuation.

Name: RITIK PAGARIA (2018A5PS1008P)

Student write-up

Short summary of work done during PS-II: Goodera is right now in exponential growth phase. As it is a startup, you get to know different things like account management, business strategies and knowledge about CSR domain. Overall decent station.

Tool used (Development tools - H/w, S/w): Excel, Wix, Zapier.

Objectives of the project: Create CSR activities for clients, support your team in managing events, be ready to fix problems as soon as they arrive, account management and business planning.

Major learning outcomes: Account management, Business strategies, etc

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Goodera is in hypergrowth phase so they expect proactive nature from you. You do have to come out of your comfort zone and complete the work. People are good here but workload can be very high. Working environment is good as people here are very helpful.

Academic courses relevant to the project: For non-tech role no course is required. For tech role, they can expect some understanding in coding languages.

PS-II Station: Gradcapital Advisors Pvt. Ltd., Bengaluru

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: PRAKHAR MITTAL (2017B5A20937P)

Student write-up

Short summary of work done during PS-II: Investing, End-to-End Operations, Strategy management.

Tool used (Development tools - H/w, S/w): MS Excel, Word, Powerpoint, Google Sheets, Docs, Slides.

Objectives of the project: To plan and set up complete business operations and investing in startups.

Major learning outcomes: VC Industry know-how it functions.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work hours fluctuate between 10-14 hrs/day. Kind people who hear your concerns.

Academic courses relevant to the project: SAPM, business analysis and valuation.

Name: PRAKHAR MITTAL (2017B5A20937P)

Student write-up

Short summary of work done during PS-II: Learning outcomes includes:

1. Security Analysis and Portfolio Management Experience
2. Deals Sourcing and evaluating
3. Establishing communication channels with students, college administration and other stakeholders
4. Negotiation and Firm representation
5. Market analysis and deriving patterns from data
6. Investing

Tool used (Development tools - H/w, S/w): Tracxn, Crunchbase, Microsoft (Excel, Powerpoint & Word), Google (Sheets, Docs, Slides), Gmass, Clearbit & PipiLeads.

Objectives of the project: To save company money through partnerships / spnsorships, set up communication channels and application pipelines, make an investment bible for investing in Deep-Tech startups, hiring principal / partners for the firm, plan and execute the flagship accelrator program.

Major Learning Outcomes: 1. Establishing communication channels with students, college administration and other stakeholders

2. Deals sourcing and evaluating
3. Negotiation and firm representation
4. Market analysis and deriving patterns from data
5. Investing

Details of papers / patents: Hardware-Tech Investment Thesis: A beginners guide to investing in Hardware Tech Startups. It contains opinionated statistical interpretations, research data and insights for helping firm in investment related decisions.

Brief description of working environment, expectations from the company: The work environment is great, the co-founders pay attention to opinions, are helpful, empathetic and smart enough to leverage your strengths for the betterment of the firm.

Academic courses relevant to the project: Security Analysis and Portfolio Management, Business Analysis and Valuation, Derivatives and Risk Management, Financial Management, Fundamentals of Finance and Accounting.

PS-II Station: Groww - Business Analyst, Bengaluru

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: NIPUN TEWARI (2018A2PS0119H)

Student write-up

Short summary of work done during PS-II: I started off as a business analyst, where I was taught SQL, right from the very basics to high level querying. The work entailed data analysis from a business perspective. I showed genuine interest in ML/Data science roles of the company and the manager allowed me to migrate there. There my work was ML related; preparing and cleaning data for pipelines, running models and getting business insights.

Tool used (Development tools - H/w, S/w): Big Query (SQL), Google Data Studio, Python (and related ML libraries), AWS Sagemaker, MS Excel.

Objectives of the project: The objectives of my project were, first, to come up with an ML model to predict customer churn from different Groww products; and second, to come up with insights as to why the customers tend to churn and how to prevent it.

Major learning outcomes: The learning curve was very steep. Working in the industry is a completely different experience altogether, especially in a growwing starting (pun intended). I learnt how to get insights from business point of view, worked with high level libraries in Python, and tinkered with analytical tools like Google data Studio.

Details of papers / patents: No papers or patents published

Brief description of working environment, expectations from the company: The work environment at Groww was simply wonderful. The mentors / seniors were really helpful and warm. We used to keep gaming nights / fun sessions every Friday where we used to play games like Code words / Krunker / Smash Karts etc. From work point of view, every one at the company is very knowledgeable and eager to learn more. There were also biweekly sessions where the company's co-founders used to keep a meet and address us on where we are going next and what we should be targeting. In all, it was a really wholesome experience, full of learning.

Academic courses relevant to the project: FODS and ML; ASM, Non-Linear Optimization and AI.

PS-II Station: Groww - Software Development, Bengaluru

Faculty

Name: Akanksha Bharadwaj

Student

Name: RAJAT GOYAL (2017B4A70570G)

Student write-up

Short summary of work done during PS-II: Backend Development,Tech Stack -Springboot, MySQL.

Tool used (Development tools - H/w, S/w): Spring framework

Objectives of the project: Rest API creation for the team

Major learning outcomes: Backend developers

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was wonderful. The mentors / seniors were really helpful and warm in guiding.

Academic courses relevant to the project: OOP

Name: BATCHALA SANDEEP (2018A7PS0190H)

Student write-up

Short summary of work done during PS-II: Worked in the iOS App team in the Stocks Pod on various quality of life features to improve UX of the users. Notable ones were Native iOS Widgets & Advanced charts optimisation. The technologies primarily used are React Native and Swift. The stuff I worked on was UI development, Networking in App dealing with Web Sockets, Advanced Charts, cleaning up the codebase & setting up an automated code documentation system.

Tool used (Development tools - H/w, S/w): React Native, Swift, Xcode.

Objectives of the project: Enhance and Optimise the Groww iOS App.

Major learning outcomes: iOS App Development with both, Native (Swift) and React Native.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Incredibly smart and helpful team. You can approach anyone for help and will never be turned down or judged. You will get to work on good projects as long as you show interest. The project timeline is completely driven by you. Overall, fantastic work culture and pretty relaxed working environment.

Academic courses relevant to the project: Software Engineering, Object Oriented Programming, Computer Networks, Operating Systems.

Name: ANANY PRAKHAR (2018A7PS0211H)

Student write-up

Short summary of work done during PS-II: The project was to migrate old internal tools. The project was divided into several smaller assignments. These were migrating many web applications and creating few new web applications (as per new requirements) used by Groww's employees.

Tool used (Development tools - H/w, S/w): VSCode, Git, React, Redux, Typescript, open source packages.

Objectives of the project: Develop web applications / dashboards for operations team at Groww for customer information management.

Major learning outcomes: Clean coding principles, coordinating with other teams, frontend development principles.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The environment was conducive to maximum personal development. There were a lot of things to learn.

Academic courses relevant to the project: Human computer interaction, Computer networks.

Name: NITIN K (2018A7PS0219G)

Student write-up

Short summary of work done during PS-II: Involved in the web development part of the company.

Tool used (Development tools - H/w, S/w): JavaScript, TypeScript, ReactJS, Redux, CSS.

Objectives of the project: Web development for the payments team.

Major learning outcomes: JavaScript, TypeScript, ReactJS, Redux, CSS.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: Good work culture and great mentorship.

Academic courses relevant to the project: Software Engineering, Object Oriented Programming, Operating Systems.

Name: PEDDI VINEEL (2018A7PS0241P)

Student write-up

Short summary of work done during PS-II: Majorly worked in Android App development tasks for Groww, used kotlin programming language for all the tasks - Android studio is the IDE, also always followed the clean code architecture in all the tasks.

Tool used (Development tools - H/w, S/w): Android Studio, BitBucket, Kotlin Programming language, JIRA.

Objectives of the project: Complete the required tasks in Android App for Groww.

Major learning outcomes: Android App development with proper architecture, code reviews, Identifying and fixing bugs, process of App release in the playstore.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work culture is properly designed, team interactions were good, before working on any task, interacted properly with Android team, product manager and product designer first.

Academic courses relevant to the project: OOP, DSA, Computer Networks.

PS-II Station: HCL Technologies - IT, Mumbai

Faculty

Name: Vijayalakshmi Anand

Student

Name: KUSHAGRA GUPTA (2017A7PS0053P)

Student write-up

Short summary of work done during PS-II: Worked along with the ERX team to create a framework working as a data ingestion pipeline.

Tool used (Development tools - H/w, S/w): Apache Nifi, Python, Docker.

Objectives of the project: Data ingestion pipeline.

Major learning outcomes: Nifi, APIs, Docker.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The manager and the rest of the team were understanding that we were new to the IT world and helped us everyway possible and at the same time nudged us to take every new challenge.

Academic courses relevant to the project: DSA, OOP, Computer Networks.

Name: AGRAWAL YASH SANTOSH (2017B3A30540P)

Student write-up

Short summary of work done during PS-II: Data Engineering, demo project on data engineering.

Tool used (Development tools - H/w, S/w): Azure, Data factory, Data bricks.

Objectives of the project: Demo project.

Major learning outcomes: SQL queries.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The mentor and all other employees were very much helpful, understanding and helped us everyway possible way throughout the duration of the project.

Academic courses relevant to the project: DAS, OOPs.

Name: AASHISH BALIVADA (2018A3PS0867P)

Student write-up

Short summary of work done during PS-II: We created a connector framework for the company.

Tool used (Development tools - H/w, S/w): Apache NiFi, ElasticSearch, Postman, VS Code.

Objectives of the project: To create a connector framework.

Major learning outcomes: Using NiFi to build backend for projects, using Python to make requests and alter json files.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: We were given specific tasks with deadlines and we met every morning to discuss the progress for each task. And after each task we had to demo what we have done in a code review where they point out bugs in the code and points of improvement. They expect the code to be as efficient as possible and especially while testing, you have to make sure it works in every possible failure scenario. If you prove yourself to be good, you receive lot of praise and motivation from your manager that will make you work even harder.

Academic courses relevant to the project: OOPs.

Name: GONDHALEKAR KEYUR BHALCHANDRA (2018A7PS0118G)

Student write-up

Short summary of work done during PS-II: I did research on various security applications for Docker and Docker containers. After choosing one of them, I designed a GUI application to easily use it and to view the reports it generates. After that, I had multiple smaller projects which used Docker in addition to databases and HTML pages.

Tool used (Development tools - H/w, S/w): Docker, Virtual machines, Java, MySQL, Docker Bench.

Objectives of the project: The objectives of the project were to understand Docker and how it is used in the industry, to create small scale applications using it, and to create a GUI to analyse security reports for it

Major learning outcomes: To understand how Docker works, Java Swing, AWT and to create an application by using them.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was good in HCL. My manager had given me the topic for my project and I was allowed to work on it on my own. Any doubts I had could be asked on mail or by directly calling him. The company wanted some sort of POC from my project at the end of it, which I delivered.

Academic courses relevant to the project: Databases and OOP to a certain extent.

Name: SHYAMAL KHAJURIA (2018A8PS0199P)

Student write-up

Short summary of work done during PS-II: Building POCs for commercial availability of 5G technology and its adaptability to IoT devices using Spring Boot (RESTful API), OpenNESS by Intel, MySQL and MongoDB. Developed 5G Apps using 3GPP specification to enable transfer protocols. Deep Learning projects were also done using OpenCV, TensorFlow and Pytorch. Developed a traffic signalling App for 5G devices to efficiently route the traffic to multiple RAN towers.

Tool used (Development tools - H/w, S/w): Spring Boot, OpenNess, MongoDB, Visual studio code for Python, Anaconda, MySQL and NoSQL for database, POSTMAN, Swagger.

Objectives of the project: Developed a traffic signalling App for 5G devices to efficiently route the traffic to multiple RAN towers.

Major learning outcomes: Many new softwares were introduced like OpenNess which is a API platform for 5G models. Major work was on RestFul APIs and testing was done using Postman and Swagger.

Details of papers / patents: https://www.etsi.org/deliver/etsi_ts/29500_129599/29572/5.01.00_60/ts_129572v150100p.pdf

Brief description of working environment, expectations from the company: Working environment was very nice, the manager and PS Faculty were really helpful. Since the work involved majorly R&D, the deadlines were not strict. Meets were conducted regularly to discuss the further work of the project.

Academic courses relevant to the project: DSA and OOP would be helpful.

Name: INJAM SRI HARSHA (2018A8PS0946H)

Student write-up

Short summary of work done during PS-II: Our project is to predict customer churn of a bank based on the customer data. This project involves Data Engineering and Data Science. We worked on Microsoft Azure for this project.

Tool used (Development tools - H/w, S/w): Azure

Objectives of the project: To predict Customer Churn.

Major learning outcomes: SQL, Scala, Python and become familiar working with Azure Data Factory, Data Bricks platforms.

Details of papers / patents: None

Brief description of working environment, expectations from the company: During the initial months, we had training sessions which helped us in attaining new skills. The working conditions would be pretty decent and there won't much pressure from the manager. But, they emphasize more on training rather than assigning the project.

Academic courses relevant to the project: DBMS.

Name: BEJAGAMWAR SANKET ATUL (2018AAPS0293G)

Student write-up

Short summary of work done during PS-II: Contributed in the O-RAN software community which is the open source community working towards open and intelligent RAN, which is part of 5G development.

Tool used (Development tools - H/w, S/w): C++, OOP, Valgrind, Gdb, Docker, Docker Compose, Openstack, Git.

Objectives of the project: Transfer of performance data between 2 O-RAN components using VES.

Major learning outcomes: Learnt a lot about 5G technology mainly O-RAN, using lot of new tools like Docker and Valgrind, also learnt about working and contributing in open source community.

Details of papers / patents: VES PM data for slicing use case. [Issue-Id: ODUHIGH-384] - fulfilled this jira ticket in O-RAN SC.

Brief description of working environment, expectations from the company: Whole team was very supportive and helpful, I used to get subtasks everyday and my manager would monitor my progress in daily team level call, I also have given 3-4 presentations and tech talks during my internship. In the start, we were given few introductory 5G courses to get familiar with the technology and was given sufficient time to complete them but you need to know c++ and OOP beforehand as they wont give any additional time to learn that. work mostly revolves around c++ and OOP so having knowledge of this beforehand will help a lot.

Academic courses relevant to the project: OOP.

Name: ADARSH SIDDHARTH A (2018AAPS0357H)

Student write-up

Short summary of work done during PS-II: HCL Service Assurance in 5G. I worked on API's used to fetch data from database and integrate with UI. Also worked on reactjs reusable components. Other work includes, benchmarking read and write speeds using Python.

Tool used (Development tools - H/w, S/w): NodeJS, ExpressJS, InfluxDB, MongoDB.

Objectives of the project: Service Assurance Portal for 5G.

Major learning outcomes: Learnt to work with Databases and also familiarized with REST API's. Also learnt to work as a group .

Details of papers / patents: 1) Working on components for UI which manages the 5G Network clusters. The components are made to be reusable and interactive, so that it can be easily ported. 2) Working on Rest API in Nodejs to provide a framework to query data from databases in MongoDB.

Brief description of working environment, expectations from the company: I was expected to complete courses in Java and Web-Development and was later tested after completing the course. I also had to learn mongodb and influxdb, which I used along with nodejs to make many API's which were used to interface between the UI and Backend. I also made a repository of all the API's so that It would be easy to Undertand. The work environment was good as I need to login as per prescribed time as I was working from home.

Academic courses relevant to the project: OOPS, Computer Programming, Programming Languages such as Python, Javascript etc.

Name: PETLOZU SUJITH (2018AAPS0365H)

Student write-up

Short summary of work done during PS-II: 1) Had training for first two months on Oracle SQL, Bash scripting, Azure for dataengineering, Python and Microsoft powerBI.
2) Had assessment tests and built-in labs in percipio for SQL, bash.
3) Practiced some tasks in Azure and started project after 2.5 months.
4) Project involves design in ppt, analysing CSV files, building data analytics dashboard in databricks. Applying data cleaning and transformation techniques on the CSV files and building pipeline for automatic file ingestion in datafactory. Merging the files to single churn file according to required attributes. Assigning binary value to the churn and other customers, applying different ML algorithms to predict accuracy, testing for newer datasets.

Tool used (Development tools - H/w, S/w): Azure datalake storage, Azure datafactory, Azure databricks, Azure ML.

Objectives of the project: Customer churn analysis & ML model for churn prediction for a bank.

Major learning outcomes: Learnt data engineering techniques in Azure cloud, bash shell scripting, Logistic regression.

Details of papers / patents: No patents / papers published

Brief description of working environment, expectations from the company: Relaxed working environment will have sufficient time to learn the tools and technologies required for Project. Training consists of an access to percipio and some courses will be alloted to complete along with labs.
Project was assigned a bit late despite of asking several times. It was not real time project in company and gave for learning purpose.
Manager was pretty chill had meetings twice a week while training period and once a week after the project started. Mentor was there during training period to clarify doubts during meets.
Advantages: Good company to start if one is new to computer science field and start from basics.
Disadvantages: One may not get much project time if they want to learn through developing software / application. Didn't get real time work (expected atleast shadow project under senior employees).

Academic courses relevant to the project: DBMS (Oracle SQL, database design), IOT (cloud basics).

Name: AMAN KUMAR TIWARI (2018AAPS0394G)

Student write-up

Short summary of work done during PS-II: Contributed to the latest development in the field of 5G i.e. the 5G O-RAN software being developed by 5G O-RAN SC which is an open source community working towards the development and virtualization of RAN elements. My area of focus is improving and incorporating additional functionality in the O1 module that connects the ODU-HIGH and the SMO component of the O-RAN software via the O1 interface.

Tool used (Development tools - H/w, S/w): Docker, Kubernetes, C++, Python, Java, Spring Boot, OpenStack, Linux.

Objectives of the project: Contribute in the open source 5G O-RAN Software.

Major learning outcomes: Learnt a lot about the new developments in 5G.

Details of papers / patents: No papers or patents. But since it was an open source project, you can view the code that I have contributed. I have contributed in the E release of O-RAN.
Git Clone : git clone "https://gerrit.o-ran-sc.org/r/o-du/l2"
Gerrit link : https://gerrit.o-ran-sc

Brief description of working environment, expectations from the company: Working environment was pretty good. Company expected a lot from us, but not before adequately training us in those fields.

Academic courses relevant to the project: OOP, DSA.

Name: TUMMALA KUSHAAL (2018AAPS0422H)

Student write-up

Short summary of work done during PS-II: I learnt the necessary technologies to complete the project through a 3-month training program at HCL. The program included DBMS, SQL, Azure, etc. I then used the skills learned to clean, validate and transform raw data using Azure Dataflows.

I used Databricks to calculate key performance indicators and display them in a dashboard. The data was also used to predict customer churn.

Tool used (Development tools - H/w, S/w): Oracle DBMS, SQL, Azure.

Objectives of the project: The objective of the project is to build a complete pipeline that extracts raw data, validates and transforms the data and then the data is used to predict customer churn. The data is also used to display Key Performance Indicators (KPIs) in a dashboard.

Major learning outcomes: Oracle DBMS, SQL, Azure.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The first three months was a training program that included DBMS, SQL, Azure. We had bi - weekly calls with our manager to update our learning status. For the three months, we were just expected to learn and write assessments. Then for the last 1.5 months we were expected to work as a team and complete the project alloted.

Academic courses relevant to the project: CS F111, CS F213, BITS F312.

Name: CHEREDDY VIVEK REDDY (2018AAPS0481H)

Student write-up

Short summary of work done during PS-II: Initially, we were given some course links as part of training which we finished in two months and later we started some work. At some point, our manager told that we had to do some java back end work and again two or three weeks later we were told to install cypress a testing tool to work on in it.

Tool used (Development tools - H/w, S/w): Java.

Objectives of the project: The objective of the project is to build a complete pipeline that extracts raw data, validates and transforms the data and then the data is used to predict customer churn.

Major learning outcomes: Apart from basic concepts of Java, OOPS, Cloud.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good friendly work environment, everyone is easily approachable and willing to help you out.

Academic courses relevant to the project: OOPs, DSA.

Name: SHASHWAT SINHA (2018AAPS0616G)

Student write-up

Short summary of work done during PS-II: I worked on various UI components, created a database of 5G KPI measurements using Java and wrote Python script that will be used for HCL's network slicing management system.

Tool used (Development tools - H/w, S/w): HTML, CSS, JavaScript, React, Java, Python.

Objectives of the project: The objective of the project is to build a 5G service assurance platform.

Major learning outcomes: Learnt programming skills and contributed in both web and software development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Pretty friendly work environment. Everyone is easily approachable and willing to help you out.

Academic courses relevant to the project: OOP, Computer Programming, Mobile Telecommunication Networks, Communication Networks.

PS-II Station: HCL Technologies Ltd (Formerly Geometric Ltd.,), Mumbai

Faculty

Name: Pavan Kumar Potdar

Student

Name: DEVEN PAUL (2018A4PS0047G)

Student write-up

Short summary of work done during PS-II: A Python engine was created which would read data in the form of csv from major CAD softwares and convert that data into data frames. The created data frames would then be used to extract data and plot graphs using mathplotlib, create widgets using seaborn and dashboard using dash libraries. The created engine would deal with major issues faced by the Q/A team.

Tool used (Development tools - H/w, S/w): Microsoft Visual Studio, Jupyter, Tortoise SVN, Solidworks, Creo, SIEMENS NX.

Objectives of the project: To create a Python engine on DFMPro to read data from various CAD software.

Major learning outcomes: Python and C++ programming , data collection and visualization.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: The work environment was good, people were friendly and ready to help.

Academic courses relevant to the project: CAD, Data Visualization.

PS-II Station: HERE Technologies, Bengaluru

Faculty

Name: Ankur Pachauri

Student

Name: RAKSHIT JOSHI (2017B5A70521P)

Student write-up

Short summary of work done during PS-II: Implemented several bug fixes and major to minor feature implementations and enhancements in the frontend of HERE marketplace applications. Interacted with POs, designers, Lead Engineers, etc in the process.

Tool used (Development tools - H/w, S/w): Angular, Typescript, SCSS, HTML, Git, Figma, etc

Objectives of the project: To develop and maintain the frontend codebases of HERE Marketplace.

Major learning outcomes: Front end design and implementation. How to work in a professional environment handling gigantic codebases. Learnt how professional software development is done in relation to work across different environments, interacting with pipelines, coordinating with QAs, designers, etc.

Details of papers / patents: No papers / patents

Brief description of working environment, expectations from the company: Good working environment. Colleagues and manager were all very approachable. Flexible working hours at-least in the current WFH situation. Expectations were to deliver effective and robust code solutions to tickets assigned on a bimonthly basis.

Academic courses relevant to the project: Object Oriented Programming.

PS-II Station: HERE Technologies India Pvt. Ltd., Mumbai

Faculty

Name: Ankur Pachauri

Student

Name: PRASHANT RAMESH JHA (2018AAPS0332G)

Student write-up

Short summary of work done during PS-II: 1. Worked on Graph Theory (Alignment) to align various layers of map using linear matrix factorization.
2. Worked on Image Processing (Super Resolution) to super resolve satellite images to aerial images.
3. Worked on Computer Vision (Weather) binary classification model to differentiate between rainy / fogy weather from clear weather.

Tool used (Development tools - H/w, S/w): Python, QGIS, GeoPandas, TensorFlow, Pytorch, Javascript, ReactJS, NodeJS, DGX: GPU Cloud, Git, Confluence.

Objectives of the project: To improve quality of low resolution satellite images and bring them closer to aerial features.

Major learning outcomes: Image processing and Super resolution.

Details of papers / patents: Research work in Image Super Resolution | Domain: Image Processing | Super Resolving low quality satellite images into high quality aerial images.

Brief description of working environment, expectations from the company: SDLC: Agile Friendly and supportive managers, good pay to work ratio and accelerated learning environment. Device support - Laptops (Mac) and other necessities are covered by the company.

Academic courses relevant to the project: Object Oriented Programming, Computer Programming, Communication Networks.

PS-II Station: Hindustan Unilever Research Centre, Bengaluru

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: DHANANJAY SINGH (2018A1PS0003P)

Student write-up

Short summary of work done during PS-II: First was to do a literature survey regarding the topic and then gathering all the scare data available. Do the thermodynamics and mathematical modelling to find the objectives and then followed by an App made on MATLAB and R.

Tool used (Development tools - H/w, S/w): MATLAB; Excel; R.

Objectives of the project: PREDICTIVE CMC BASED ON THERMODYNAMICS MODELS AND ACTIVE DEPOSITION BEHAVIOUR.

Major learning outcomes: Thermodynamics and Mathematical Modelling, App Development on MATLAB and R.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: PS2 was WFH. Company was very corporative and project was a good learning experience.

Academic courses relevant to the project: Thermodynamics and Numerical Methods.

Name: SHREYA KAPILA (2018A1PS0538G)

Student write-up

Short summary of work done during PS-II: My project was on the "Study of foam flowing on inclined plane". I examined the rheological properties of foam and it's response to Rosen parameter, marangoni effect. Analyzed the viscosity, liquid volume fraction affecting the nature of flow over inclined plane and adhesion of foam on surfaces. Developed new relation between parameters to calculate the viscosity of foam from the measured flow behavior of foam. Studied the rheology of foam and its associated factors.

Tool used (Development tools - H/w, S/w): Performed Experiments.

Objectives of the project: Study of foam flowing on inclined plane.

Major learning outcomes: I learnt to persevere and troubleshoot issues when experiments for analyzing foam properties failed, and it helped me engross fundamental requisites for good research, including well-organized research presentations. Learnt in depth about surfactants, foam and its associated properties and various phenomenons.

Details of papers / patents: In process

Brief description of working environment, expectations from the company: My mentor was very supportive and always encouraged to think creatively. He has helped in learning how to approach different scientific problems ad find solutions to them. I expected to meet other members at HUL as well or atleast interact with them during some company annual meeting.

Academic courses relevant to the project: Fluid Mechanics, Transport Mechanics, Material Science, Numerical Methods, Knowledge on surfactants and foam.

PS-II Station: Hourglass Research, Mumbai

Faculty

Name: Gopala Krishna Koneru

Student

Name: DON SUNNY (2018A8PS0453G)

Student write-up

Short summary of work done during PS-II: To perform prior-art search and patent analysis on inventions of various clients. My task is to analyze the invention of the client according to what is disclosed and search for similar inventions or 'prior-arts' in existing databases. By doing so, the team can determine whether an invention is patentable, if a patent has been infringed upon or if a patent is invalid. I also suggest a plan of action to the client through a detailed report. I also conduct prior-art searches for inventions that have already been applied for patents in order to assist in the review process of the application.

Tool used (Development tools - H/w, S/w): Questel Orbit.

Objectives of the project: Conduct patentability assesment of inventions, find products infringing on patents and check validity of patents.

Major learning outcomes: I learnt about the field of Intellectual property (IP) and the career possibilities it offers engineers. The work assigned is similar to that of an analyst role and hence helped me gain a better understanding of a non-core type job and work environment. The training sessions of the company teach the interns how to conduct research for patent analysis and also teach other things like presentation skills, business communication and grooming.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company requires students for an analyst intern role. The students will be assigned to the search team and will have one project per week on average. The projects are from different client companies belonging to multiple fields like automobile, software, semiconductors, etc. Besides projects, the company may also assign tasks like updating datasets and creating presentations and reports. The working environment is very nice and the colleagues are friendly and supportive. The team leader of the search team will always be ready to assist the interns.

Academic courses relevant to the project: NA

PS-II Station: IMarc Services, Noida

Faculty

Name: Ramesh Venkatraman

Brief write-up on PS-II station: 1. All the 5 students allotted to Imarc for PS-II have been working on market research.
2. The students have met the expectations and at times exceeded the expectations of their respective Managers in Imarc.
3. A basic course on market research may help them to have an head start in this area.

4. I have followed the below approach to help them acquire relevant domain skills:-

(a) An assignment at the beginning which is focused on Market Research and Market Research techniques.

(b) An assignment after the mid-sem which is focused on understanding and applying the industry trends in Market Research.

5. I have set the below expectations to the students at the beginning itself, during orientation, which has helped them to stay focused:-

(a) First 1 to 2 weeks: Quick learning of the relevant domain, technology and work culture and start delivering as quickly as possible.

(b) Till mid-sem: Focusing on delivering the regular activities in a steady-state mode with high quality and on time.

(c) Beyond mid-sem: Focusing on adding value by introducing new ways of working based on industry trends and innovations.

Student

Name: AKSHAT ADARSH (2017B4A81019G)

Student write-up

Short summary of work done during PS-II: Market research of global markets to come up with SWOT analysis, porter's analysis etc. For companies looking to enter new markets. A lot of work also involved data entry type tasks.

Tool used (Development tools - H/w, S/w): Word, Excel, Powerpoint.

Objectives of the project: To assist in the business as usual activities. The BAUs aim to provide companies looking to venture new markets insights about the market through market research reports.

Major learning outcomes: Using qualitative analysis frameworks like Porter's, SWOT etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company expects you to work as much as its full time employees. You are expected to work beyond office hours quite frequently. Everything has to be done in a set timeline and within the timeline given.

Academic courses relevant to the project: Principles of Management

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Name: STUTI PANDA (2018B5PS0912G)

Student write-up

Short summary of work done during PS-II: Analyzed multiple industries using qualitative analysis techniques like, SWOT, Porter's 5 forces framework, key demand and price indicators and competitive analysis. The work also included writing content for the website in the form of Report Descriptions, PR, Backlinks, etc.

Tool used (Development tools - H/w, S/w): Excel, Ppt, Word.

Objectives of the project: To analyze multiple industries and contribute to market research reports.

Major learning outcomes: Market Insights, Industry overview, Time Management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Remote work, report to direct managers who allot specific task, good feedback culture.

Academic courses relevant to the project: PoM, Market Research.

Name: RAJAT SAINI (2018D2TS1174P)

Student write-up

Short summary of work done during PS-II: The goal of the Business as Usual (BAU) activities is to study and comprehend how to create a market analysis report. All of these operations have an impact on report sales, starting with backlinks and Search Engine Optimization (SEO) to drive more visitors to the firm website and ending with the exact and correct updating of the report to stay competitive in the market. That is attainable if one has a thorough understanding of each of these tasks as well as the conventional method of presenting facts and information.

Tool used (Development tools - H/w, S/w): MS Excel, Tableau, Internal Company Tool.

Objectives of the project: To updates the information and overview of Global and Regional Markets on the website so that visitors may get a sense of what services are available and how much they cost. Advertising backlinks, which redirect users to the website from other partner websites and advertisers, search engine optimization (SEO), which ensures a higher rank among Search Engine Result Pages (SERP), Report Description and ToC, which give the overall scope of the report, are the key elements to attract clients to the website.

Major learning outcomes: Business Techniques, Research Techniques.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: 1. Extremely supporting and professional managers 2. Good work ethics of all employees 3. Healthy inter-team interaction 4. Helpful Mentors.

Academic courses relevant to the project: Research methodology, PoM.

PS-II Station: Indian Institute of Petroleum (IIP), Dehradun

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: ABHISHEK KUMAR (2017A1PS1002H)

Student write-up

Short summary of work done during PS-II: My work at IIP was in the area of modelling and simulation. I was assigned with the task of understanding the basic process flow in pulp and paper industry with special focus into the chemical and energy recovery unit. From this unit, multiple effect evaporators was taken up for the modelling purposes. Finally, data obtained after the simulation were compared to the actual industrial data for analysis purposes.

Tool used (Development tools - H/w, S/w): MS Excel and MATLAB were used extensively.

Objectives of the project: Pulp and paper industry is an energy intensive industry. Huge amount of raw material, chemicals, energy and water are consumed in the process of paper manufacturing. One such energy intensive sub-system, multiple effect evaporator (MEE) system, is used to concentrate black liquor from pulp mill. It has been reported that the MEE system alone can consume around 24–30% of the total steam consumed in a large Indian pulp and paper mill. Therefore, modelling and simulating the MEE system will help us to understand the process better and can then lead us to the path of optimizing the process.

Major learning outcomes: 1) Know how to make assumptions with solid reasoning 2) Which correlations to select, which can properly describe the system being modelled and minimize the error 3) Most importantly, ability to interpret the data obtained after simulation. Without it a data set is just a set of numbers.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It is a nice place to work in but discipline here is very important. It is expected that you will reach the office on time. Also, a good number of active research goes on here and so there is a chance of publishing a paper with your guide.

Academic courses relevant to the project: 1) Mass and Energy Balances 2) Thermodynamics 3) Evaporative Heat Transfer.

Name: JOEL JOSEPH (2017B2A10267G)

Student write-up

Short summary of work done during PS-II: Initial work mainly consisted of learning about the relevant research that IIP was conducting, in my case hydrogen production. Day to day activities in the beginning included gathering research papers and making reports documenting research articles published by science journals around the world pertaining to hydrogen production. Once relevant research was obtained, optimization of hydrogen production through membrane technology was the main focus of the work. Preparing a mathematical model for the production of hydrogen and further simulating the model using COMSOL was the main area of the work done.

Tool used (Development tools - H/w, S/w): COMSOL, Wolfram Mathematica, MATLAB.

Objectives of the project: Optimization of hydrogen production.

Major learning outcomes: Learnt how government research labs operate, how the work is conducted, formulation of a mathematical model, simulating the said model with COMSOL and trying to solve the various problems that crept up during simulation.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: As the majority of the work was conducted from home, the majority of the working environment reflected my

preferences. Weekly meetings were held on Mondays to discuss the way forward with the work and other meetings were scheduled whenever my mentor was available to solve any issues which arouse from the work itself.

Academic courses relevant to the project: Chemical Engineering Lab - I & II, Fluid Dynamics.

PS-II Station: Indian Institute of Remote Sensing (IIRS), Dehradun

Faculty

Name: Monali Tushar Mavani

Student

Name: ABHINAV KUMAR (2018A3PS0423G)

Student write-up

Short summary of work done during PS-II: The PS-II project was to re-evaluate a paper published back in 1990 which revolutionized the field of microwave remote sensing, the MIMICS model. We were tasked to recreate this model to learn what microwave backscattering was all about and what are the necessary components to not only work on the MIMICS model but also the mindset required for any research.

Tool used (Development tools - H/w, S/w): Google Scholar and software used for simulation is Fortran.

Objectives of the project: Objective of this project was to recreate the MIMICS model.

Major learning outcomes: In the process completing the project, I learnt about various theories used in MIMICS and its subsequent models like the radiative transfer theory, backscattering

coefficient, reflectivity matrix etc. While these topics serve as the theoretical base for the model, the model itself was simulated on Fortran.

Details of papers / patents: The project was to repeat the simulation of the MIMICS model. No papers / patent was published / filed.

Brief description of working environment, expectations from the company: Though the work environment created was good, I personally wished it to be on site to get a first hand experience and witness all the research facility present in IIRS.

Academic courses relevant to the project: The project was out of the scope of the academic courses, but is a very important part of remote sensing and is already in use in the industry with various usages.

Name: SRIDHAR DHAMIJA (2018A8PS0707G)

Student write-up

Short summary of work done during PS-II: Calculation of backscattering coefficient of the model.

Tool used (Development tools - H/w, S/w): Fortran, Codeocean.

Objectives of the project: To calculate the backscattering coefficient of the model.

Major learning outcomes: MIMICS, Remote Sensing.

Details of papers / patents: 1990_Michigan Microwave Canopy Scattering Model.

Brief description of working environment, expectations from the company: Remote working enviroment, we were expected to work on the problem statement given to us by the senior researcher.

Academic courses relevant to the project: Computational Physics.

PS-II Station: Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam

Faculty

Name: Sindhu S

Student

Name: PATIL CHAITANYA (2016B5A80418G)

Student write-up

Short summary of work done during PS-II: I was assigned to the Innovative Sensors Section (ISS). The project was about an indigenously developed pressure sensor and my job was to use finite element solvers to simulate the sensor and it's application for level sensing. The results of my simulations were compared with experimental data to check their validity and make corrections. The data collected from my work was used to improve the sensor.

Tool used (Development tools - H/w, S/w): COMSOL Multiphysics, OpenFOAM, MATLAB.

Objectives of the project: Modeling and Simulation of Differential Pressure Based Pulsating Sensors for Various Applications.

Major learning outcomes: Experience of working in research lab was very valuable. Learnt about finite element method and the different software which use it. Also gained some knowledge about designing new sensors.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home, the working environment was very relaxed and the scientists were very helpful.

Academic courses relevant to the project: Computational Physics, Electronic Instrumentation and Instrumentation Technology, Transducers and Measurement Systems, Industrial Instrumentation and Control.

Name: SINHA AADARSH RIKSHIT RAJESH (2017B3A30690H)

Student write-up

Short summary of work done during PS-II: Designing and development of Intruments to measure current due to ultra-low radiation.

Tool used (Development tools - H/w, S/w): LTSPICE XVII, Proteus, Easy EDA.

Objectives of the project: Design and development of Intruments to measure current due to ultra-low radiation.

Major learning outcomes: Working of non-inverting Op-amps, femtoammeter circuits, use of softwares such as ltspice, Easy Eda, Proteus, working of ADA 4530-1.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work from home, communication via slack and email.

Academic courses relevant to the project: Electronic Instrumentation and Instrumentation Technology, Industrial Instrumentation and Control.

Name: PUNYA JUNEJA (2018A1PS0010P)

Student write-up

Short summary of work done during PS-II: Designed a Pressure Swing Adsorption system for purifying Argon from an Argon-Nitrogen mixture using zeolite 13x as adsorbent. This included the development of the requisite breakthrough curve in MATLAB.

Tool used (Development tools - H/w, S/w): MATLAB.

Objectives of the project: PSA Design (cycle times, column dimensions, Purge to Feed ratio, etc.)

Major learning outcomes: Literature survey for gathering data for design, software modelling, numerical solution of coupled partial differential equations, communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is positive, specially the industry expert. However, the onus is on the student to communicate regularly with the project supervisors as they are quite busy with their office work. The organization expects us to work without much hand-holding while helping when necessary.

Academic courses relevant to the project: Numerical Methods for Chemical Engineers, Separation Processes II, Process Design Principles I and II, Mathematics III.

Name: SAUBHAGYA SHUKLA (2018A1PS0351P)

Student write-up

Short summary of work done during PS-II: Maintenance of an inert atmosphere is required in a glove box containing highly reactive metals / compounds to protect them from various safety hazards. For the purpose of maintaining inert atmosphere and removal of impurities namely oxygen and moisture, a purification bed was studied and designed. A purification tower was designed to recirculate pure Argon gas into the glove box and copper catalyst and molecular sieves were chosen to remove excess oxygen and moisture respectively. Sizing parameters of purification tower, like height and diameter were calculated and sample calculations were discussed in the previous slides. Also, appropriate sizing of blower was decided by plotting pressure drop and static head at various flow rates.

Tool used (Development tools - H/w, S/w): None

Objectives of the project: To study and design a purification tower bed for the purposes of maintaining inert atmosphere in a glove box containing highly reactive metals / compounds.

Major learning outcomes: Gained experience in doing project involving practical implications and applied theoretical knowledge gained in studies for practical work. Further improved presentation and communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The mentors allotted from IGCAR were very helpful. Being extremely busy, it is expected to have patience in waiting for their replies. The working hours vary depending on the project and schedule of the mentor. The expectations from the organization is to be consistent in the project work. Being in constant communication with the mentor and complete the work in stipulated deadlines is expected.

Academic courses relevant to the project: Separation Processes, Mass Transfer.

Name: PENMETSA HEMANTH VARMA (2018A3PS0561H)

Student write-up

Short summary of work done during PS-II: The objective of the project was to create a GUI desktop application capable of processing the response data of multiple sensors and extracting features from the response data to create data matrices which can be further decomposed using dimensionality reduction methods for the visualisation of the variance in the data. The scope of the project included novelty in the process of feature extraction. The project also aimed to build a user-friendly and intuitive interface with various functions wrapped in a toolbox for gas sensing.

Tool used (Development tools - H/w, S/w): PyCharm and ANACONDA3.

Objectives of the project: Development of desktop application.

Major learning outcomes: Application development on python based gas sensors.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The mentors allotted were very much helpful and the working environment is also positive.

Academic courses relevant to the project: Separation Processes, Mass Transfer.

Name: VISHAL DIXIT (2018A4PS1037P)

Student write-up

Short summary of work done during PS-II: Finding optimum parameters to manufacture 99.99 % pure yttria cup with near net densification, using binder jetting technology. Involved optimizing powder, binder, priting parameters, equipment and post-processing.

Tool used (Development tools - H/w, S/w): Simutech Additive, ANSYS.

Objectives of the project: Manufacture yttria cup using binder jetting.

Major learning outcomes: Additive manufacturing, binder jetting, fluid mechanics.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home, mentor just gave initial project details. Go for it only if interested in R&D; project topic is very interesting and challenging.

Academic courses relevant to the project: Reverse engineering and rapid prototyping, fluid mechanics, material science.

Name: INGUVA MANIKANTA VENKATA SRIRAMA GANESH (2018AAPS0389H)

Student write-up

Short summary of work done during PS-II: The objective of the project was to create a GUI desktop application capable of processing the response data of multiple sensors and extracting features from the response data to create data matrices which can be further decomposed using dimensionality reduction methods for the visualisation of the variance in the data. The scope of the project included novelty in the process of feature extraction. The project also aimed to build a user-friendly and intuitive interface with various functions wrapped in a toolbox for gas sensing.

Tool used (Development tools - H/w, S/w): Pycharm and Anaconda3.

Objectives of the project: Desktop Application development.

Major learning outcomes: Working of Gas Sensors, Development of Apps using Python.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: WFH, the mentors allotted were very much helpful and the working environment is also conducive for learning.

Academic courses relevant to the project: Object oriented Programming.

PS-II Station: INDmoney, Gurugram

Faculty

Name: Vineet Kumar Garg

Student

Name: KESHAV KUMAR (2017B2A20649P)

Student write-up

Short summary of work done during PS-II: I was part of the advisory-notification team in which creating different Api's and making frontend templates and make data dynamic using Jinja2 and Api's. Make different notification live and resolve error in the live notification.

Tool used (Development tools - H/w, S/w): DynamoDb, BitBucket, Java, SQL, Jinaj2, HTML / CSS.

Objectives of the project: As I was in growing stage startup, so my team was in very initial steps, so I have created many Api's and notification.

Major learning outcomes: This PS gave me boost in the direction of development and as the part of notification team got to learn different types of notification and there mechanism. Go to learn how data flow from backend to the user and How Api's work. Attended various tech talks like SQS, Kafka ect.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The mentors allotted were very much helpful and the working environment is also conducive for learning.

Academic courses relevant to the project: OOPs, OS.

Name: AVIRAL AGARWAL (2017B5AB0924P)

Student write-up

Short summary of work done during PS-II: Front end development using JavaScript and React JS.

Tool used (Development tools - H/w, S/w): JavaScript, ReactJS.

Objectives of the project: Front End Development at IND Money.

Major learning outcomes: Learnt JavaScript and React JS and good experience of industry knowledge.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: The company is a start up and provides a very good experience to interns in handling critical situations. We were given first hand experience in managing the front end development in the company.

Academic courses relevant to the project: Data Structures, OOP, OS.

Name: SARTHAK AGRAWAL (2018A7PS0170P)

Student write-up

Short summary of work done during PS-II: INDmoney is a fintech startup providing various tracking services to give users an idea of their net worth (assets and liabilities). I worked in the credit cards tracking team on optimizing the card tracking funnel (from user entering their gmail ID to tracking their credit cards on INDmoney and getting analytics on the same). I worked on various feature improvements, two new features, and other UX improvements to optimize the funnel and increase the key metric being tracked at each step. This was more of a product analytics role and involved defining metrics related to the credit cards product, working with BI team on dashboards for the same, configuring frontend tracking on the app (to track user clicks and screen views) and deriving insights from all the above for the product and engineering team to execute on.

Tool used (Development tools - H/w, S/w): AWS Redshift + Redash --> used for SQL queries and BI dashboards
Metabase --> for setting up various alerts and slack integrations for queries
Segment + Indicative --> tracking funnels and user behaviour

Objectives of the project: To optimize a tracking funnel in the app for the credit card tracking feature.

Major learning outcomes: 1. How to work in a fast-paced environment 2. How to collaborate with various stakeholders to drive a project to completion 3. Understanding of feature rollout cycles, A/B experiments and data analytics for user behaviour.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working environment. I had a daily scrum and bi-weekly meetings with the manager/mentor. Work is fast-

paced since it's a growing startup. Learning is on the job, there is no separate training period. Students can get ownership on projects even as interns if they are proactive.

Academic courses relevant to the project: Database Systems (particularly SQL).

Name: NAIDU CHANDRA SEKHARA PRASANNA KUMAR (2018AAPS0412H)

Student write-up

Short summary of work done during PS-II: My role was software developer intern, I was a part of frontend web team, as the company is early startup stage it requires all its products to be developed fastly, training period was very little period for me we have to learn a lot of things to develop like react, javascript, HTML, css in a very short amount of time and as the bandwidth of team members is always non empty so you should take care all the products that will be developed by you from end to end righ from contract with product team, app team, backend team and have to make the release as early as possible, so I think this would be great opportunity to know about all the areas in software development.

Tool used (Development tools - H/w, S/w): VS code bit bucket, git bash.

Objectives of the project: I did totaly 26 tasks in my tenure of internship out of which 4 tasks are like textual changes and 5 are very impactful products 1 develop advisory page 2 develop stp calculator 3 develop dynamic component for indranking.

Major learning outcomes: Typescript, HTML CSS, tailwinf css learnt about startup culture.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working culture of company is very good. I found every team to cooperate with another team to build all the products which helps the company grow and it is great place to learn technologies in lesser time.

Academic courses relevant to the project: DBS, CP.

PS-II Station: InMobi - Software Development, Bengaluru

Faculty

Name: Pradheep Kumar K

Student

Name: VIKRANT REWAL (2018A7PS0150P)

Student write-up

Short summary of work done during PS-II: Worked as a Front end developer for the ICC Engineering team. Worked on multiple projects throughout the internship period such as GTM (Google Tag Manager), made new custom made templates using react, JS and HTML. Learnt React to make various extensions and Ad renderer. Developed and maintained a unified dashboard platform using Node.js and Reactjs to ease the business flow. Built features using MoustacheJS to fulfill the product requirements. Also, worked on end to end projects (including dev, Qa and deployment).

Tool used (Development tools - H/w, S/w): JavaScript, React, AMP HTML, Android studio, CSS, HTML and MONGO Compass.

Objectives of the project: To build an end to end customer friendly retailer advertiser portal.

Major learning outcomes: Full stack development with more emphasis on Front end development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is very good and provides opportunities for tremendous growth. Provides great learning opportunities and makes you realize that the Ad industry has huge potential. Provides with latest tech stack. The work culture is also very good. The team is supportive and helpful which helps the new joiner to accommodate with the new tech stack quite easily. The company expects the Intern to be just curious and should be able to involve in the daily stand-ups. Should be a quick learner and should be able to own the product which he or her is making. PPO chances are also very high if the work is done nicely.

Academic courses relevant to the project: Data structure and algorithms, Object oriented programming, Database, Operating system, Network programming.

Name: ARYAN GUPTA (2018A7PS0152P)

Student write-up

Short summary of work done during PS-II: My main work is in IOS and Android development domain. I got to work on building some Android applications from scratch and from the IOS side, I got work on their IOS SDK.

Tool used (Development tools - H/w, S/w): XCODE, Android studio.

Objectives of the project: Publishers generally hesitate to give the crash reports of their application to INMOBI group and because of this we are not able to analyze the reasons or flaws in our SDK. So, the main objective of building this application is to get more users on board and then later used INMOBI SDK to show the advertisements on their applications. Through this, we can get the crash report directly.

Major learning outcomes: Got exposure of IOS and Android development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is pretty much Chill. You will have to take the responsibility of your own work.

Academic courses relevant to the project: OOP, DBMS, OS.

Name: LALIT PACHORI (2018A7PS0158P)

Student write-up

Short summary of work done during PS-II: I was a part of InMobi Fuse China engineerings team. I developed user ipterfaces with modern JavaScript frameworks, HTML5, CSS3 and Vue js. Worked according to Product development's Sprint schedule and providing timely high fidelity prototypes to Engineering. Worked on bug fixing and minor improvements. Communicated with product managers and UX designers to translate project requirements and business objectives into polished user interfaces.

Tool used (Development tools - H/w, S/w): VS code editor, nodejs, vue.js, GitHub, jira, HTML, CSS, javascript, React, vuejs, Postman, Zentao, Zeplin.

Objectives of the project: It is highly customized for agencies within China looking to help advertisers grow across the globe.

Major learning outcomes: 1.Gained practical, hands-on experience with VueJs for building user interfaces (UIs) and single-page applications.
2.Practice-oriented and 'hands-on' working experience in the real world or industry and to enhance the student's-learning experience.
3.Improved problem-solving ability and learn to appreciate work.
4.Develop communication, interpersonal and other critical skills.
5.Solve real life challenges in the workplace by analyzing work environment and conditions and selecting appropriate skill sets acquired from the course.

Details of papers / patents: Fuse is omnichannel campaign management platform, built to support and unify advertising campaigns across social channels like TikTok, Facebook, Google.

Brief description of working environment, expectations from the company: Great work culture, flexible work hours, good learning, helpful people, well established senior management.

Academic courses relevant to the project: DSA, DBS, OOP.

PS-II Station: InMobi- Business Sales, Bengaluru

Faculty

Name: Dinesh W Wagh

Student

Name: SHUBHENDU KUMAR TRIPATHI (2017B1A10433P)

Student write-up

Short summary of work done during PS-II: I was given partner manager role. Handles publishers from Wadogo Supply team and gave them the Ad campaigns to run.

Tool used (Development tools - H/w, S/w): Postman, MS Excel, IAP, Clarity, Vision, Skype.

Objectives of the project: To increase the revenue of given publishers.

Major learning outcomes: Analytical skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work culture of company is great. You are given ownership of your work.

Academic courses relevant to the project: Technical Communication.

Name: A ADARSH (2017B2A40513P)

Student write-up

Short summary of work done during PS-II: Account Management - Taking complete responsibility for ensuring that the maximum performance is delivered for a campaign by coordinating with various stakeholders - Client, Sales Manager, Supply Team, Finance Team and Technical Team.
Tasks include keeping a track of performance, revenue tracking, client services, problem solving and raising issues and action points to concerned POCs for the campaign.

Tool used (Development tools - H/w, S/w): Excel, PowerBI, MMP Reports, Internal Dashboard and Salesforce.

Objectives of the project: Delivering maximum performance for Ad campaigns by managing the campaign end to end.

Major learning outcomes: Stakeholders Management - Proper direct and brief communication, Data Analysis (Excel) - Campaign performance tracking and optimizing, taking ownership of the roles and challenges.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is really friendly and chill. There will be an opportunity for steep learning curve as the workload is high and you are expected to take ownership. People are extremely friendly and will help you out if you seek help for any doubts. Most of the work is divided within teams so cross-functional and internal communication would be crucial. Only downside would be that sometimes

workload may stretch your working hours but the challenges are exciting, people are fun and nice, lots to learn about the Ad-Tech Industry (many learning sessions across the teams).

Academic courses relevant to the project: Any course with case studies / group projects / team communication would be useful.

Name: APOORAV DHINGRA (2017B4A40788P)

Student write-up

Short summary of work done during PS-II: Inmobi is an Ad agency which runs ads on phones, tabs etc. in various countries. The learning experience is good. The team consider even intern as an employee and assign tasks accordingly and in some areas give you ownership of that as well. Rather than working on 1 single project you will be part of the daily Adhoc operations which takes place in a company. Working culture is great. But If you ask them regarding PPO then you won't get answer till last week of uour intern as they hire based on vacancy at that point and in that team only. So, if you are planning for intern here at 1st sem forget that you will get a PPO. I was part of gaming team, DSP where my daily operations involved were research, analysis based on data, fetching data, using inhouse tools and platforms for reporting and taking live new creatives. Getting creative team work on creatives, provide them ideas on how will it look like, doing various creative testing experiments, creating various tracking urls, handling all campaigns running on Moloco DSP and same accounts on iDSP.

Tool used (Development tools - H/w, S/w): Excel, word, PowerPoint, Salesforce, Atlassian jira, DSP clarity, SSP Clarity, Celtra, iDSP, Moloco DSP, Notepad.

Objectives of the project: Analyst- Gaming, DSP.

Major learning outcomes: 1. Management-Time and Work 2. Inhouse tools 3. Ad tech industry knowledge 4. Reporting 5. Research 6. Analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Inmobi is an Ad agency which runs ads on phones, tabs etc. in various countries. The learning experience is good. The team consider even intern as an employee and assign tasks accordingly and in some areas give you ownership of that as well. Rather than working on 1 single project you will be part of the daily Adhoc operations which takes place in a company. Working culture is great.

Academic courses relevant to the project: Technical communication, CP.

Name: ASHWIN REVANKAR (2018A1PS0032G)

Student write-up

Short summary of work done during PS-II: - Made revenue reporting dashboards to streamline revenue data visualization to upper management.
- Meeting cadence / handbook for efficient meetings and overall governance structure.
- Strategy project to check under-utilization of the platform tool used to make creatives.

Tool used (Development tools - H/w, S/w): MS Excel, Power BI, Salesforce.

Objectives of the project: This project is under the Strategy & Operations team at InMobi DSP. Through this project, we aimed to create visibility among senior leadership of the weekly DSP revenue reporting. This project was vital to create an easier view as revenue data is not properly maintained in several regions and doing so will enable us to have a dynamic platform with different metrics to track progress and help in making better strategic goals. A major part also involved increasing operational efficiency.

Major learning outcomes: - Gained more proficiency in Excel, PowerPoint, and Power BI.
- Learnt critical skills of problem solving, documentation and communication.
- Understood the core of Ad-Tech ecosystem – the players involved, business and tech used in end to end ad serving.
- Thinking from a strategy perspective and prioritization of problems at hand.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was great learning experience, with very supportive team members.

Academic courses relevant to the project: Technical communication, CP.

Name: AGRAWAL ANUJ MANOJ (2018A1PS0069P)

Student write-up

Short summary of work done during PS-II: Mainly creating report for account performances on Microsoft Bing Ads platforms. Also worked the sales team for leads generation and email automation project . A brief project on using Bing Ads API and adding a feature to make multiple request from a file data input using Postman and Python (Basic OOP).

Tool used (Development tools - H/w, S/w): Postman, Excel, Excel VBA, Bings Ads & Google keywords planner.

Objectives of the project: To create analysis and reports.

Major learning outcomes: Email automation using Excel VBA, sales and lead generation, hands on postman based feature development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was progressive, but needs to self motivated in learning new things, else the work becomes redundant.

Academic courses relevant to the project: Object Oriented Programming.

Name: AVINASH RAI (2018A1PS0593G)

Student write-up

Short summary of work done during PS-II: I did work on programmatic buying at the brand team, InMobi DSP.

Tool used (Development tools - H/w, S/w): MS Excel, DSP, Clarity, Kibana.

Objectives of the project: Programmatic buying at brand DSP.

Major learning outcomes: This project is under the programmatic buying at the brand team, InMobi DSP. The project involves a comprehensive study of the demand side platform and advertisement campaigns assessments. This project was vital to create the thinking and understanding of running advertisement campaigns and optimising to achieve the client's objective.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment, lots of opportunities to work in AdTech industry. No technical skills (coding, softwares) needed as such.

Academic courses relevant to the project: OOPs.

Name: MILIND KUMAR SINHA (2018A3PS0543P)

Student write-up

Short summary of work done during PS-II: As an intern in gaming department, we were expected to use Excel to analyse raw data containing all demand-side transactions to assist in making sound business decisions.

Tool used (Development tools - H/w, S/w): MS Excel, Power BI.

Objectives of the project: Business analysis in gaming department.

Major learning outcomes: In-and-outs of business analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment and lots of opportunities to work as well as to learn.

Academic courses relevant to the project: OOPs, CP.

Name: ARSH MAHESH KORGAONKAR (2018A4PS0020G)

Student write-up

Short summary of work done during PS-II: I have worked with DSP team of Inmobi. My work was based on campaign management, submitting fraud and revenue tracker once each week. Also, I ran Python scripts which generated automated excel files and from that I updated a Power BI file. I had to submit this every day, it would help in the business insights of each advertiser.

Tool used (Development tools - H/w, S/w): Excel, Teams, Power BI, Jupyter Notebook and Jupyter Lab, Inmobi sites via Google Chrome.

Objectives of the project: Handling the campaigns, creative refresh and addition and analysis of campaigns using Excel files.

Major learning outcomes: Learnt to interact with AMs, my team and got a gist of the work atmosphere. It was moderate experience for first three months, but then after getting a switch in the new team things started to fall in place. I learnt that hard work is important and also persistence is the key to success.

Details of papers / patents: Duration of work – 5 months 11 days, team - Inmobi DSP, Title - sales and trading.

Brief description of working environment, expectations from the company: There are about 25 teams in Inmobi. There are teams all over the world as well. Every month there is at-least 1 global meet where there is discussion of important events. The company asks for dedicated and hardworking employees and there is quite scope in working at Inmobi.

Academic courses relevant to the project: Supply and Demand.

Name: HARSH KUMAR SRIVASTAVA (2018A4PS0053H)

Student write-up

Short summary of work done during PS-II: As part of the product management team, was assigned to work on the 1 Weather app. Completed a competitive analysis of 1 Weather along with 15 other competitor weather apps to determine the strengths and weaknesses of each app. Performed a SWOT and SOAR analysis for 1 Weather.

Tool used (Development tools - H/w, S/w): Smartlook, Trello, Shutterstock, Excel.

Objectives of the project: Reduced the errors on the app by 10%, by watching user recordings, noting down the errors and rectifying them with the Engineering team. Mapped the most common user journeys to perform battery, CPU and memory consumption analysis for future testing.

Completed an analysis for the shorts and Radar page, to incorporate more features and layers in each of the pages respectively.

Major learning outcomes: Major learning outcomes was how things work in cooperate world, how to follow the things and learnt about some new softwares.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: They look for people who are diligent, who respect deadlines, are proactive in communication, take ownership of whatever it is they are working on.

Academic courses relevant to the project: OOPs.

Name: B SRINIVASULU REDDY (2018A4PS0132H)

Student write-up

Short summary of work done during PS-II: Inmobi is digital marketing conglomerate. I was in the trading department. It included working with huge amount of data and making decisions based on the numbers and campaign postbacks. I mostly handled revenue tracking, campaign optimization, supply checking, making weekly reports, etc.

Tool used (Development tools - H/w, S/w): Used in-house tools, MS Excel, Tableau.

Objectives of the project: Campaign optimization.

Major learning outcomes: Decision making based on data, data analysis, proficiency in Excel.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: People are helpful if you ask for help. You need to be more pro-active from the start. No one is going to check on you. You should feel responsible for yourself. Overall, it was a good space to work and grow I would say.

Academic courses relevant to the project: Would highly recommend adding a few data analytics courses into the curriculum.

Name: PRATIKSHIT BHARDWAJ (2018A4PS0234G)

Student write-up

Short summary of work done during PS-II: The objective of the proposed study is to analyze different products or apps and research on anonymous and non-anonymous effect as a whole. Anonymity plays an increasingly important role on social media. By Investigating social media services and comparing for solely anonymous use and for widely spread non-anonymous sharing of pictures and videos (Instagram). By which we examine the impact of anonymity on the behavior of users on anonymous compared to their non-anonymous use of Instagram as well as the differences between the user types: producer, consumer and participant.

Tool used (Development tools - H/w, S/w): NA

Objectives of the project: To improve 1Weather and Swish apps.

Major learning outcomes: Improved communication skills, manpower management, understand how E-Commerce companies deliver efficiently, software / languages like Excel and SQL.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is very good, everyone helps a lot in projects. Project assigned needs a lot of analysis for which one needs to know the entire operation & tools, which makes a bit challenging at first

but soon becomes pretty easy to analyze. There's an added advantage if you are good in Excel macro.

Academic courses relevant to the project: CP, OOPs.

Name: ABHAY KANT SHARMA (2018A4PS0344G)

Student write-up

Short summary of work done during PS-II: Being a part of Account strategist team, I am required to help clients with optimizing their online ad campaigns on Bing. I work single handedly on high spending clients and manage $1M+ workstream monthly. We also manage the account operations for many clients and help them with new campaigns setup. During the 4 months of my Internship, I have worked on major sales campaigns in and across continent including August Sales India (freedom Sales), 11-11 sales in India, USA, Europe and Australia. Worked with the sales team to find out potential clients in SE - Asia region. Knowledge transfer to permanent account strategist hired currently.

Tool used (Development tools - H/w, S/w): MS-Excel, MS-suit, SQL, Power Bi.

Objectives of the project: Manage and optimize search engine ads for clients.

Major learning outcomes: Gained proficiency in Excel, SQL and other analytic software.
Learnt search engine marketing concepts with real world applications, critical skills like client management, communication and product ownership. Got opportunity in application of different optimization techniques. Gained leadership skills and learned how to coordinate between different departments and build relations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is good.

Academic courses relevant to the project: OOPS, CP.

Name: ABHINAV KUMAR PAWAN (2018A4PS0501G)

Student write-up

Short summary of work done during PS-II: I'm part of Australia and New Zealand client services team at InMobi. The team is further divided into performance, brand and PMP. I work for brand and performance. My tasks involves analysis of 2 performance campaigns and all the brand campaigns on daily basis. I also act as a direct POC over mails for the client for communicating anything with the live campaigns. I am also a link between the sales managers for Australia and New Zealand and other teams of Inmobi. They forward their queries and I coordinate with various other teams for getting it resolved.

Tool used (Development tools - H/w, S/w): MS Excel, Salesforce, Jira, Kibana (InMobi product), Clarity (InMobi product), iDSP (InMobi product), Heartbeat (InMobi product), IAP (InMobi product).

Objectives of the project: Daily analysis of all the advertising campaigns.

Major learning outcomes: Gained more proficiency in MS Excel, coordinating with different teams for any task. Have a deep understanding of the working of iDSP (Inmobi's demand Service platform), IAP (Inmobi Affiliate Platform). Learnt critical skills of problem solving, documentation and communication.
Understood the core of Ad-Tech ecosystem – the players involved, business and tech used in end-to-end ad serving.
Thinking from a strategy perspective and prioritization of problems at hand.
Hurdles faced while automating data process in large organizations.

Details of papers / patents: No papers were published by me

Brief description of working environment, expectations from the company: The working environment was professional, there was a proper structure of hierarchy and proper procedure of how any issue was to be resolved. The company expects you to be absolutely correct and consistent with whatever you do.

Academic courses relevant to the project: Effective public speaking, MS Excel (could be found from any education platform), How to manage your daily work life? (linkedin learning), How to write professional mails (coursera).

Name: NIRMAL J (2018A4PS0511P)

Student write-up

Short summary of work done during PS-II: I worked as a business analyst. I had to manage the VoC for six different apps. I had also to drive the user engagement of one of the apps, 1Weather.

Tool used (Development tools - H/w, S/w): Excel, Zendesk, Word, Canvas, MoEngage.

Objectives of the project: NIL

Major learning outcomes: I got the opportunity to work with Zendesk, one of the best software out there for customer support purposes. I learnt about user engagement and had a fantastic opportunity to experiment with the various notifications we created as part of the engagement.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: The working hours were flexible. You have only to complete the work assigned to you every day. Team members are highly supportive. They will clear any doubts that you have and will help with anything. You will get the opportunity to discuss with everyone in the company.

Academic courses relevant to the project: OOPs, CP.

PS-II Station: Insights Alpha, Delhi

Faculty

Name: Naga V K Jasti

Student

Name: DIVYA SHARMA (2017B3AA1339H)

Student write-up

Short summary of work done during PS-II: Initial month is the training period where the trainee is supposed to do lead generation (finding project relevant experts on LinkedIn or Naukri) and bio-making (brief summary of expert's industry experience). During this training period, the trainee also has mock-calls with company employees to learn the company pitch and overall work done at the firm. Post the training period, the trainee is added to the delivery team of multiple projects (both Indian and foreign projects) where they are supposed to find relevant experts, pitch the project details over call or email and scheduling the consultation call with the client-facing team. A typical day would be searching for experts, calling them to explain the project details and sharing the expert's bio to the project manager.

Tool used (Development tools - H/w, S/w): MS Excel, MS Word, LinkedIn Sales Navigator, Naukri.com, Monster.com, Lusha.

Objectives of the project: The objective of the work assigned was to recruit industry / subject matter experts for the company in order to facilitate industry specific consultation projects with the company clients.

Major learning outcomes: Sales pitching over call, communication skills, and time management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment and culture are fine but the timings are exhaustive. Mentors and employees are helping. A proactive approach is required where you constantly need to be in touch with your mentor and project manager regarding the work done and current status of projects you are working on.

Academic courses relevant to the project: OOPs.

Name: SARTHAK DONGAONKAR (2018A5PS1065H)

Student write-up

Short summary of work done during PS-II: I worked in a knowledge based expert networking company and acted as a management trainee to bring up experts in the company. I performed primary research and acted as a bridge between clients and experts. My day-to-day work include forming on biography and lead generation.

Tool used (Development tools - H/w, S/w): LinkedIn, Naukri.com, Excel, Monster.com, Python Scrapping.

Objectives of the project: Consultant onboarding to facilitate on insight projects.

Major learning outcomes: a. Understood present market and market shifts which are on-going and the new technologies / spheres where people, corporate etc are investing.
b. Identified various risks associated with business stating without proper expert involvement and false news.
c. Understood costing and minimizing it for the best experts of relevant domains across and cut out profits.

d. Prepared biography of the approved experts in order to connect them to company backend server (Jarvis) and on boarding future clients.
e. Prepared questionnaires to ask clients in order to get information about the exact needs of clients, example – Targeted geography, seniority level etc.
f. Analyzed and represented data of the expert and eventually take a decision on the feasibility and accessibility of the expert and about the opportunity cost of the expert for the company.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company is working in a ever growing field, diversification field and hence huge chance of growth.

Academic courses relevant to the project: Fundamentals of Finance and Accounting, Public Policy, Public Speaking Skills.

PS-II Station: Integrated Active Monitoring Pvt. Ltd., Pune

Faculty

Name: Suparna Chakraborty

Student

Name: ISHITA SINGHAL (2018A8PS0349P)

Student write-up

Short summary of work done during PS-II: I got to work on well-structured web development and design projects which helped me curate a lot of skills pertaining to software development in a tech firm. I had to learn the basics of UI web dev with React and Redux, which is a very popular skill set for those who want to enter web dev industry. We throughout worked on the aspects of design and designed these engineering applications in a way so as to minimize the user clicks.

These tasks were interesting as I was able to dive through a pool of tech stacks and JavaScript libraries and also got to implement them. It was a great learning experience in terms of learning Web dev, Web page optimization, code maintenance and development.

Tool used (Development tools - H/w, S/w): React JS, Raspberry Pi, Figma, SQL Workbench, Docker.

Objectives of the project: 1) Developing and Designing UI for multiple projects: Energy Monitoring system, Metro station escalator status and canteen management system 2) Day to Day maintenance and enhancement of Front end UX, Keeping the portals updated to the current versions of tech stack.

Major learning outcomes: Front end web development, Optimization of UI/UX.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is pretty chill and everyone in the team in approachable and helpful. I got to work on different front end technologies and development of interfaces end to end. It was a good learning experience, both in terms of adding value to the organization and upgrading my own skill sets. You are given ownership of the tools and tech stack and you have freedom to add more value to the existing work stack.

Academic courses relevant to the project: Operating Systems, Object oriented programming, DSA.

Name: SHARDUL ANIL KHADYE (2018A8PS0945H)

Student write-up

Short summary of work done during PS-II: Worked on developing the backend of multiple IoT products.

Tool used (Development tools - H/w, S/w): Python, fastapi, sqlite, mongodb, pycharm, raspberry pi.

Objectives of the project: To develop an energy monitoring / controlling device.

Major learning outcomes: Got good understanding of how an industry level product is developed. To some extent learnt small scale system designing. API development, database designing, etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is very good and everyone in the team in approachable and very much helpful.

Academic courses relevant to the project: Object oriented programming, Computer networks, database management system, IoT.

PS-II Station: Intel India Technology, Bengaluru

Faculty

Name: Swapna S Kulkarni

Student

Name: ADITYA K NAIR (2018A3PS0288G)

Student write-up

Short summary of work done during PS-II: The project is based on creating a new floorplan from the partition in the MTL-D project for the required CPK partition. The shape of the partition changes from a perfect rectangle to a polygon with 16 corners. The blocks inside the partition are

moved using the Synopsys GUI while using the Data Flow Flylines utility provided in the tool, thus providing a guided movement and arrangement of the blocks into proper locations. The I/O ports and the path between the ports is given highest priority as compared to the branched path modules. While analyzing the net connections and reviewing timing reports, STA concepts are taken into account and the limitations are changed. New floorplanning definitions are created to avoid violations and to ease better optimization. The tool is used extensively along with a myriad of shortcut keys to quickly place a block and move to its analysis. For the technology transformations, a shell script is created and later a tcl/tk based code is generated for better understanding.

Tool used (Development tools - H/w, S/w): Synopsys Design Tools- ICC2 Compiler.

Objectives of the project: The objective of the project is to use the results from the parent "MTL-D" project to create the "CPK" partition with new dimensions and converting the memory instances from the former technology to the required.

Major learning outcomes: Understanding of all the physical design steps and flows. Static timing analysis and topics connected to them. Hands on experience on the Synopsys tool and the GUI. Understanding of the work to be done by an SoC intern through a myriad of training videos.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It a good and friendly environment. The people on and outside my team are great colleagues. Even though it was work from home, the team meetings were quite understanding and interactive. They follow up with you in tasks while providing a guide for a smooth transition into the internship.

Academic courses relevant to the project: Microelectronic Circuits, Analog Electronics, Analog and Digital VLSI Design.

Name: YALAMATI JAYA NARAYANA SATYA PAVAN (2018A3PS0670H)

Student write-up

Short summary of work done during PS-II: Testing the design under test by running simulated risks on the design to know if the system can face all the real-life risks and to build resistance to those risks by considering the results of this project.

Tool used (Development tools - H/w, S/w): Vnc, PythonSV, TTK-3, Fit-Flash (python scripting and C++ are involved).

Objectives of the project: Security Authentication and Risk Analysis of Processor DUT.

Major learning outcomes: Gained knowledge about simulating risks to tests working of a design under construction, got to know about Service Provider Network and the importance of vRAN in present-day 5G technology development. Learnt about many softwares like TTK-3, Fit and Flash, Python SV and working on the virtual platforms by accessing systems through online modes.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great support from Intel team leads and managers.

Academic courses relevant to the project: MPI, ED, SnS.

Name: PRIYANSHI MISHRA (2018A8PS0120H)

Student write-up

Short summary of work done during PS-II: First two month were mainly the training part. There I was taught every stage of the physical design and learnt to use the tool. After midsem I was given a partition to work on. My responsibility was to run the partition, study all the stages deeply, experiment with the tool to solve the timing, congestion related problems in the partition.

Tool used (Development tools - H/w, S/w): Design compiler, Integrated circuit compiler.

Objectives of the project: To have the confidence to own the partition and work on it individually.

Major learning outcomes: Learnt about synthesis, placement, clock tree synthesis, routing, ECOs.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Mentor and manager were really helpful. Had weekly meeting with the manager to share the work and any concern. They involve interns in the monthly session where all employees would enjoy. Got to learn so much from the colleagues and manager.

Academic courses relevant to the project: Digital design, Analog and digital vlsi design.

Name: NIHARIKA RASTOGI (2018A8PS0752P)

Student write-up

Short summary of work done during PS-II: Provided ESD support for a chip in tape-in stage, sole point of contact and responsible for subsystem level signoff for high frequency test chip.
Optimizations: Created framework for automated error analysis, created summary generator script for dashboard, alternative software compared and proposed.
Team Events: Organized two team events for the monthly refreshment and catch-up team meets
Learning: Technical: Power Delivery Networks, Electo-Static Discharge, Signoff checks, Product Reliability Verification and Design improvements.

Tool used (Development tools - H/w, S/w): Tools: RedHawk, IC Compiler, RapidESD, RedHawk SC, Vortex.
Languages: PERL, Python, TCL.

Objectives of the project: Analysis and examination of existing Power Delivery Network and signoff techniques and practices in use for high performance, low power system on chips. Understanding implementation of signoff techniques using third party tools optimizing existing techniques.

Major learning outcomes: Power Delivery Networks, Electo-Static Discharge, Signoff checks, Product Reliability Verification and Design improvements, ML and optimisation techniques.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The team was very supportive and innovation and inquisitiveness is nurtured. The employees stand by the company ideals. It is definitely a place to grow for initiative-takers.

Academic courses relevant to the project: Analog Digital VLSI Design, Microelectronic Circuits, DSA.

PS-II Station: IUDX Program Unit, Indian Institute of science - Data Kaveri, Bengaluru

Faculty

Name: Nishit Narang

Student

Name: ROHIT KHANDELWAL (2018A8PS0331G)

Student write-up

Short summary of work done during PS-II: Api testing and Plaform Security: (Cloud Security, Penetration Testing using OWASP ZAP and Performance testing using Apache JMeter).

Tool used (Development tools - H/w, S/w): Postman, OWASP ZAP, Apache Jmeter.

Objectives of the project: The objective of the project is to understand security and performance of rest APIs.

Major learning outcomes: Tools: Postman, OWASP ZAP, Apache JMeter, VNC Server
Technical Skills: Vulnerability testing, Inspect Security Breaches, Test Plans Scripting, Testing on Remote Servers.
Cloud Security: 2FA, RBAC, OpenSSH Hardening Methods.
Soft Skills: 1. Problem Solving 2. Communication skills and Work Ethics 3. Adaptability.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: A great working environment. Team is so helpful.

Academic courses relevant to the project: Network security.

PS-II Station: JPMC - CIB R&A Wholesale Payments, Mumbai

Faculty

Name: Ramesh Venkatraman

Brief write-up on PS-II station: 1. The 13 students allotted to JPMC for PS-II have been working on various financial domain areas like Home Lending, Whole Payments, Qualitative Modelling, GRC, etc.
2. The students have met the expectations and at times exceeded the expectations of their respective Managers in JPMC.
3. The students who did a minor in Finance felt they could pick up easily. Others also put their efforts and showed a quick learning curve.
4. I have followed the below approach to help them acquire relevant domain skills:-
(a) An assignment at the beginning which is focused on the financial domain area that is related to the station each one is assigned.
(b) An assignment after the mid-sem which is focused on understanding and applying the industry trends in the area related to the station each one is assigned.
5. I have set the below expectations to the students at the beginning itself, during orientation,

which has helped them to stay focused:-

(a) First 1 to 2 weeks: Quick learning of the relevant domain, technology and work culture and start delivering as quickly as possible.

(b) Till mid-sem: Focusing on delivering the regular activities in a steady-state mode with high quality and on time.

(c) Beyond mid-sem: Focusing on adding value by introducing new ways of working based on industry trends and innovations.

Student

Name: SRUJAN GOVINDU (2017B5AA1698H)

Student write-up

Short summary of work done during PS-II: Responsibilities included: 1. Conducting analysis of the competitive and general macro / market environment based on public data and industry reports for senior management and client presentations 2. Analysed the working capital of various companies across different industries and benchmarked them against their peers to give suggestions on working capital reduction 3. Researched and analysed payment methods in Retail, Consumer, Energy and Fast fashion industries 4. Made Pharmaceutical & Healthcare and Airline industry newsletters every 2 weeks for use by bankers and senior management.

Tool used (Development tools - H/w, S/w): Excel, PPT, Factiva and Capital IQ.

Objectives of the project: BAU

Major learning outcomes: Excel / PPT proficiency and time management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good team with excellent senior leadership.

Academic courses relevant to the project: FOFA

Name: RAJPUT TEJAS VIKRAMSING (2018A7PS0253H)

Student write-up

Short summary of work done during PS-II: Most of the work can be categorised into 2 parts - Analysis (working capital management) and Research (Payment Solutions). The BAU work consisted of analysis of companies for liquidity management through the technique of benchmarking on MS Excel. It also involved research on companies and industries based on key trends to find where the company can provide its payment solutions to the clients. All the findings were presented in the form of PowerPoint presentations. Hence, most of the work involved research on free web and market reports (40%), making presentations (40%) and doing analysis on Excel (20%).

Tool used (Development tools - H/w, S/w): MS Excel, MS Powerpoint.

Objectives of the project: Business as usual (BAU) work.

Major learning outcomes: Working capital management analysis using benchmarking technique, knowledge of various industries and companies from the research for key trends pertaining to payment solutions.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The manager and the team are very friendly and helpful. Attention to detail was expected in all tasks.

Academic courses relevant to the project: FoFA

PS-II Station: JPMC - Focused Analytics Solutions Team, Bengaluru

Faculty

Name: Vijayalakshmi Anand

Student

Name: ABHAY ARORA (2017B3A20812H)

Student write-up

Short summary of work done during PS-II: FAST is a rotational program where you are made to work with different teams inside chase for different periods. For this internship, I worked with data analytics and reporting team. My work there involved understanding the business requirements of the phones business and develop a dashboard to track employee performance and rank them in performance buckets across multiple dimensions. I had to develop an understanding of the phones business, identify and collect datasources, process, clean and blend data using alteryx and finally create dashboards for the business in Tableau.

Tool used (Development tools - H/w, S/w): Alteryx Designer, SQL, Tableau, Excel.

Objectives of the project: Interact with the line of business and understand the business requirement to provide analytics support.

Major learning outcomes: 1) Developed understanding of the business processes.
2) Got acquainted with internal functions of the team and interacted with senior leadership.
3) Worked in a fairly agile manner and communicated with business owners to discuss potential solutions and get their reviews.
4) Gained technical skills in SQL, Alteryx and Tableau like. Exploratory data analysis, data wrangling and data visualization.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was very conginial. Managers and other team members were very supportive and friendly throughout the course of the internship. Guidance with respect to technical side of things as well as other aspects was provided throughout my time in the firm.

Academic courses relevant to the project: FOFA, Probability and Statistics.

Name: MALIGIREDDY AKASH REDDY (2017B3AA0914H)

Student write-up

Short summary of work done during PS-II: Work is mostly towards analytics and strategy. My team deals with spatial analytics which is a very different specialization. I worked on two projects and one of the projects laid the ground work for a major transformation in spatial segmentation at Chase. The other project is one of the most prestigious projects of CCB. I learnt SAS, Spatial analytics and a concept called Regionalization. The work requires significant amount of patience as there will be a lot of access issues for data and even softwares too.

Tool used (Development tools - H/w, S/w): SAS, Python, SQL, Alteryx, Tableau.

Objectives of the project: One Chase Distribution Network aims to create a unified segmentation for all the branches on a geospatial level.

Major learning outcomes: CCB business, SAS, PySpark.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is comfortable. The company expects us to be ready to learn new things and handle issues on our own. We are expected to ask a lot of questions, talk with others when a problem occurs.

Academic courses relevant to the project: Foundations of Data Science can be handy. Probability and Statistics.

PS-II Station: JPMC GR&C CCB Risk - Auto Risk Strategy Analytics, Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: ANIKET CHANDRA (2017B1A80846G)

Student write-up

Short summary of work done during PS-II: I worked in the Chase Auto Finance- Collections team, my work was primarily based on developing SAS/SQL codes and logics to pull the data of delinquent customers based on the requirement of the various projects. My major project was call attempts monitoring (based on new Reg F rule implemented by U.S. Govt and monitoring the breach rate) and developing call efforts (by on ground chase collection executives) dashboard.

Tool used (Development tools - H/w, S/w): SAS, SQL, MS excel, MS Powerpoint, Tableau.

Objectives of the project: 1. Call Attempts Monitoring- Objective was to monitor the breach rate, optimize the calling effort inline with New Ref F rule and develop the strategy to make breach rate 0% (ideally) 2.Call efforts Dashboard- Objective was to monitor the efforts made by on going chase collection executives in a time frame of 6 month.

Major learning outcomes: Developed a complete understanding of CAF- collections team working and got proficiency in using SAS and SQL for analytics purposes. Able to handle and analyze big data with correct set of instruments.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is very good as level of transparency and communication to the higher management is also very free. Being an intern I was able to work with VP, ED and even presented to our MD. Everyone is very helpful and encourages to work forward. I trully enjoyed my time with the company, although the internship was wfh but we have many interactive sessions and townhalls that made me familiar with the whole Auto RiskIndia team.

Academic courses relevant to the project: DSA, CP.

PS-II Station: JPMC- GR&C MRGR CCT - Qualitative Modeling, Bengaluru

Faculty

Name: Ramesh Venkatraman

Student

Name: TAWARI KESHAV GANESH (2017B3A30511P)

Student write-up

Short summary of work done during PS-II: Reviewed qualitative models (QM) for JP Morgan as a part of Model risk and governance review (MRGR) division. Checked whether the model documentations are formatted properly, where there implementation files match their documentations, whether the assumptions made in the model are fair or not, and how does it

affect the final output. Personally speaking, a lot of research is required while reviewing each model, and in every new model we get a new subject to research on, which makes the work enjoyable. We directly get involved in their daily business as usual activities.

Tool used (Development tools - H/w, S/w): Excel and Python.

Objectives of the project: Transition from USD LIBOR to SOFR.

Major learning outcomes: Implementing regression in Python, qualitative knowledge on the topic as well.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work culture is cool, people are quite friendly. But they do expect interns to take responsibility for work. Interns are treated as Full time employees and all their observations are taken with equal importance. They regularly give opportunities to present in front of a larger audience, which massively helps in developing soft skills. Apart from that interns also get involved in the office fun activities. All in all this is a good place to start your work career.

Academic courses relevant to the project: Econometrics, Macroeconomics, BAV, PnS, FRAM (Further depends on which pillar are you allotted to, i.e. what subject of QMs will you be doing). Before starting the internship, JP Morgan themselves provide you with courses that you need to do before you join the organization.

PS-II Station: JPMC Software Engineering Program, Mumbai

Faculty

Name: Saikishor Jangiti

Student

Name: VRINDA (2017B1A31316H)

Student write-up

Short summary of work done during PS-II: The internship comprised of:

1. A small project on Cloud Computing

- I learnt about Cloud Computing, and was asked to follow a few documentations of the Cloud services used at JPMorgan Chase & Co.

2. Building a Web Application with Micro-Front End Architecture

- It was a stand alone project in which I was asked to think of a POC using which a web application could be built possessing micro-front end architecture.
- I built an application which offered a software to its authenticated users.
- Built four micro front-ends, namely, marketing, authentication, dashboard and container. Interlinked them to make them function like one application under another micro-frontend called container, and fixed errors explicit to this architecture.
- Worked a little on the backend as well to interact with the home (marketing) page.
- Tech Stack: React.js, HTML, CSS, Java, Javascript, Spring Boot.

3. Drools Table Automation Testing

- For this project, I implemented testing of drools table (an excel file possessing set of rules of expected output for the given input) of the team's production live code.
- Learnt about drools, drools table, Integration and Junit tests. Generated positive and negative testcases corresponding to each row, tested them and generated a result report displaying their result in an excel format.
- Tech Stack: Spring Boot, Java.

Tool used (Development tools - H/w, S/w): React.js, HTML, CSS, Java, Javascript, Spring Boot.

Objectives of the project: Project 1: To learn basics of Cloud Computing project 2: To build a web application with Micro-Front Ends architecture project 3: To implement automation testing for a Drools table.

Major learning outcomes: Cloud Computing, Micro-Front End architecture, Frontend and Backend development, Drools table, Integration and Junit tests, CI-CD pipeline and maven builds.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was really nice. I interacted majorly with my manager only, had a stand up meet every morning where I updated on tasks done and used to get guidelines / remarks on the same, or get new tasks alloted. Expectations were mainly to make progress in the assigned tasks. The environment was really helpful and understanding. My manager mainly focused that I get to learn new things throughout my internship.

Academic courses relevant to the project: Cloud Computing, Software Engineering and Object-Oriented Programming.

Name: ROHIT SHARMA (2017B2A30672P)

Student write-up

Short summary of work done during PS-II: The project I worked on, involved implementing Elasticsearch search functionality to already existing lucene based search services, hence this was to make the search functionality more smarter in terms of user based suggestions and auto complete and fuzziness features.

Tool used (Development tools - H/w, S/w): ELK stack, Intellij, SpringBoot.

Objectives of the project: Smarter search service.

Major learning outcomes: How search works and the way to optimize it.

Details of papers / patents: Elasticsearch implementation.

Brief description of working environment, expectations from the company: Overall it was a great experience, the team was friendly and supportive, the project requirements and the deliverables were clearly stated out beforehand and hence it was easy to work in a particular direction while trying out and learning new things.

Academic courses relevant to the project: OOP, DSA.

PS-II Station: JPMS (Finance) GR&C Market Risk, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: ROHAN ANAND (2018A3PS0334P)

Student write-up

Short summary of work done during PS-II: I was a part of the VaR team in the Market Risk division. As part of BaU, I assisted the team in providing weekly/monthly VaR commentaries, running multiple dashboards & decks and presenting VaR status in numerous team meetings. As part of an individual project, I automated a weekly process for another risk measure (IRC) and created a dashboard for use across the team.

Tool used (Development tools - H/w, S/w): Tableau, Alteryx, Python.

Objectives of the project: To assist the team with BaU; To decrease the time taken to analyse IRC on a weekly basis.

Major learning outcomes: Developed a strong understanding of VaR and other risk measures. Better grip on working with automation tools, gained experience in working with multiple global teams.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The learning curve is very steep and one would get an opportunity to cover the depth in Finance (Risk). Timely, accurate work is the most basic expectation and plenty of opportunities are provided to take initiative. The organization has a flat hierarchy and everyone is approachable & supportive.

Academic courses relevant to the project: DRM and FinE.

Name: VEDANSH DAYAL (2018A3PS0576G)

Student write-up

Short summary of work done during PS-II: For me to gain the most out of my internship, the workflow was divided into the following three categories:
INDEPENDENT PROJECT WORK: My independent project work included creating a reconciliation report to compare risk sensitivities and creating a dashboard on a firm level and legal entity level.
OPERATIONAL TASKS: Second part of my internship included Business as Usual (or Operational or BAU) tasks, which included report validations, calculation runs and automation tasks.
FINANCIAL TRAINING: I was also able to attend a lot of training sessions honing my financial knowledge about the various derivatives market in which JPMorgan participates.

Tool used (Development tools - H/w, S/w): MS Office, Python, Tableau, Alteryx, VSC.

Objectives of the project: Creation of reconciliation report and dashboard.

Major learning outcomes: TECHNICAL: Evolution of Risk Management, Technical Tools, Financial Knowledge.
NON-TECHNICAL: Team Building, Connection Building, Core Values, Practices and Ethics.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I would recommend to people that want to have a finance PS to learn to code as well because it is highly sought after even in finance. Financial skills along with Technical skills will be the ideal combination in my opinion. Also don't be afraid to ask questions to your team, they are very helpful and competent in what they do and you might learn something new out of it. Also try to build connections as these people can help you once you enter the industry.

Academic courses relevant to the project: Computer Programming, DRM, FRAM, SAPM.

Name: AAKASH SOLANKI (2018A4PS0372G)

Student write-up

Short summary of work done during PS-II: I worked in 2 teams 'E-Trading Risk Mgmt' and 'Global Credit Trading'. ETRM looks after risks to the firm in e-Trading activities, GCT looks into the Risk in firm's exposure in Credit Products (like Bonds, CDS, FRN, etc.).

In ETRM, I was assigned the Credit Risk team (even though I was market risk intern) and my focus was on the client-related risks in e-Trading activities. Initial 1-2 weeks were spent learning the JPMC internal tools used in ETRM. I worked on 2 LOBs: Equities and Rates, and it mostly involved data-analysis related work-- finding limit utilization trends and suggesting what limits should be changed/ monitored. Major outcome was a monthly report highlighting key-clients and their details, and a Python tool to suggest appropriate limits for a particular control.

In GCT, I was assigned to Market risk team monitoring 'Credit Products' of desks trading in European Markets (EMEA CT). Here, I mainly worked on automating the 'conviction report', a report which highlighted details about the products to which the firm has high exposures. The report, which was previously being generated by excel, took about 90 mins and a lot of manual effort. The Python script could do the same in 19 mins, which amounted to 71 mins of time saved per run. BAU included End of day summary of markets. Other Projects included analysis of Gaming (gambling) sector, Covering hedges topic for the risk meets, etc.

Tool used (Development tools - H/w, S/w): Python, Excel, Powerpoint, JPMC internal tools, Bloomberg.

Objectives of the project: ETRM: Develop tools to find limit utilization trends and suggest appropriate limits. GCT: automate the conviction reports.

Major learning outcomes: Python: from basics to advanced things like multiindex, groupby, etc. Excel: Pivot tables, Vlookup, etc. Risk: How limits are set and monitored, risks in CDS products, Bloomberg terminal.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Encouraging and Motivating environment to work in, a lot to learn from senior executives and peers. Interactions depend on the teams. My first team (ETRM) was a bit hierarchical, 2nd team (EMEA CT) had more parity. In EMEA CT, I never felt I was an intern, talking to an ED or a VP. It was like an employee talking to another employee. We had daily team meets in EMEA CT, where first we'd talk about how everyone's doing, and then the ED/VP wd take note about what everyone is up to that day. ETRM missed such meets and ED would make an appearance once in 2-weeks. Overall a great experience.

Academic courses relevant to the project: Basic knowledge of finance and markets, DRM.

Name: SUBHOJIT DHAR (2018A4PS0737H)

Student write-up

Short summary of work done during PS-II: Project 1: Performed the comparison and analysis of the basis curves for various tenor points and made heat maps to find the ratio of realized and implied volatility. Made a Tableau dashboard and automated this process so that it is performed daily.

Project 2: Made a completely automated market risk dashboard linked to python, which updates the market moves in Rates/FX/Equities/Credit without any manual interaction.

Project 3: Built a framework for calculation of headline Vega exposures of JPMC, the top 10 stocks that it has invested in (region-wise), weekly trades that it performed(in different categories), sector-wise exposure of JPMC in various industries. Automated this framework so that it can be

produced in the form of a report. (This process earlier used to take multiple days of manual effort to be calculated, which is now being done in a matter of few hours using this framework.)

Tool used (Development tools - H/w, S/w): Python, Tableau, Excel.

Objectives of the project: To reduce the manual effort and increase the efficacy for analysis.

Major learning outcomes: 1) Steep learning curve.
2) Understood how a firm works as a whole, its culture and how to fit in the culture.
3) Learnt work ethics, and how to work under high pressure and tight deadlines.
4) Got a chance to interact with people from other countries, work with them and understand their thinking process.
5) Worked under amazing managers and mentors, and had a first-hand experience on how they manage people.

Details of papers / patents: Null

Brief description of working environment, expectations from the company: Great working environment, everybody is willing to help you out whenever you get stuck in the project / face difficulty in understanding any concept. Might need to work under tight deadlines, but overall a very fruitful experience.

Academic courses relevant to the project: Derivatives and Risk Management, FRAM, Probability and statistics.

PS-II Station: JPMS CIB R&A Banking (CRG) - Fintech, Mumbai

Faculty

Name: Saikishor Jangiti

Student

Name: SHREYA GUPTA (2017B2A40524P)

Student write-up

Short summary of work done during PS-II: The fintech role is related to automation of periodic business processes including but not limited to data management, pitchbook updation, excel updates, PDF and web scraping.

Tool used (Development tools - H/w, S/w): VBA, Python.

Objectives of the project: Automation of business processes.

Major learning outcomes: In depth knowledge of VBA and some basic Python.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Especially for the fintech role, you get to interact with many investment banking teams. As expected, working in a bank teaches you professionalism which will definitely help in the future.

Academic courses relevant to the project: DRM, FRAM, FOFA.

PS-II Station: JPMS CIB R&A Banking(CRG)-Banking, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: AGRAWAL VARAD KAMALKUMAR (2018A1PS0011G)

Student write-up

Short summary of work done during PS-II: I worked with the FIG division in JPMorgan CRG, which supports onshore bankers with research works and helps in data analysis and crunching alongwith preparation of various pitch materials.

Tool used (Development tools - H/w, S/w): Excel, PowerPoint, Factset.

Objectives of the project : To help onshore bankers with research and analytical work.

Major learning outcomes: It include overview of the sector, IB, valuation and detailed company analysis.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work culture is very good, the programme is designed keeping in mind the engineering background and is paced at an optimal speed.The team feedback is constructive and accomodating. The team will always help you at various points.

Academic courses relevant to the project: FOFA, FM, BAV, FRAM, SAPM, DRM.

Name: MOHAMMAD SHARIQUE (2018A1PS0871H)

Student write-up

Short summary of work done during PS-II: The project aimed to do a deep-dive analysis for a target company that needs to be sold to a prospective buyer. The deep-dive analysis is an

indicator of strategic and opportunistic transaction discussions with the clients and is core to the investment banking business. I would categorize my work as something that lies in the intersection of development and heavy research; we had to do a lot of research on many peers we have selected from various investor presentations and annual reports to understand and create backups and decks for the peers, at the same time, it is not just one type of valuation and analysis, but we are developing valuation models and indicating multiples for the given company, we are also developing on various aspects of how the company must be priced and the prospective buyer. The work essentially involves many key segments like Public and company overview which involves key details about management, financials, operations of the company, peer benchmarking which involves comparing key credit metrics of the company with numerous metrics of other companies. I personally think the culture in JP Morgan is very inspiring and exciting and I am personally very happy and inspired by the team. I am learning to understand the value of patience, persistence and also another important trait like attention to detail which is a very important skill for junior analysts like me.

Tool used (Development tools - H/w, S/w): MS Excel, MS PPS, Other JPMS software.

Objectives of the project: The project aimed to do a deep-dive analysis for a target company that needs to be sold to a prospective buyer. The deep-dive analysis is an indicator of strategic and opportunistic transaction discussions with the clients and is core to the investment banking business.

Major learning outcomes: I am learning to understand the value of patience, persistence and also another important trait like attention to detail which is a very important skill for junior analysts like me. Apart from this there were regular trainings which helped me upskill my technical skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Overall, it has been a good learning experience with a lot of learning opportunities, specifically from the experience I have had in the past month and from my team, I am hoping if BITS Pilani can make slight changes to the syllabus covered in a couple of courses like Business Analysis and Valuation . A lot of emphasis is put on discounted cash flow valuation method while trading and transaction

comparable seem to have more applications in my team, more examples about latest things in the market like that of ESG Bonds could provide exposure to real markets out there.

Academic courses relevant to the project: Fundamentals of Finance and Accounting, Business Analysis Valuation, Derivatives, Risk and Management, Security Analysis and Portfolio Management, Financial Management.

Name: AGARWAL RISHABH VIPUL (2018A3PS0426P)

Student write-up

Short summary of work done during PS-II: I was soft-aligned to the Media and Communications wing of the TMT division facing the North American geography. The work encompassed all aspects of Middle office investment banking, covering trade and transaction comparable metrics, DCF/FCFF/WACC analysis and pitch deck preparation for both marketing projects as well as live deals. I got an opportunity to work on the SPAC merger of an American audio platform which was one of the internship highlights. The work hours are a bit long, with an average working day ranging from 12 - 15 hours, but the exposure is also immense. It is an excellent place to start if you plan to enter the IB world since the coverage divisions allow you to directly interact with the global division VPs and MDs. The work does get a bit repetitive and monotonous at times, but it helps strengthen the concepts learned in class in a real-world scenario.

Tool used (Development tools - H/w, S/w): Factset, Microsoft Excel, Powerpoint, BamSEC, Thomson Eikon, Factiva.

Objectives of the project: Work consisted of several marketing deals and live projects. The marketing deals majorly focus on sector-wise newsletters, company pitches and bi-weekly/monthly CXO meets. The live deals usually focus on M&A, equity financing, IPOs and SPACs.

Major learning outcomes: The key learning was attention to detail both while crunching the numbers and presenting it on a pitch deck. Apart from that the internship also helped me understand the real-world applicants and use-cases of the content studied in class. Since it put in

touch directly with assocs and VPs from the NY office, it also helped understand the strategic rationale behind a deal/project to a certain extent.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work culture is very good with a lot of learning opportunities. The team will always help you at various points.

Academic courses relevant to the project: Derivatives and Risk Management, Fundamentals of Finance, Security Analysis and Portfolio Management, Business Analysis and Valuation, Financial Management.

Name: SHASHWAT SINGH (2018A4PS0749P)

Student write-up

Short summary of work done during PS-II: The work usually was dividided into two phases: Initially started off with assisting the team on various work staffings. The work / staffing is mainly given be the front bankers who are direct touch with the clients. The work ranges usually is marketing-based for interns - where we pitch companies either on buy or sell side to have JP Morgan as their client. Once we receive a mandate, the process starts into an execution work and various mnpi information are shared by remaining in direct touch through client meetings. Interns are usually not allowed on execution work due to limited on-floor experience. By the end of the internship each intern is given an individual project where he/she is supposed to apply his learning and create a full deck.

Tool used (Development tools - H/w, S/w): Citrix Workspace, Outlook, Skype, Zoom, JPMC apps such as token, MyWorkplace, etc.,MS Excel, MS Powerpoint, Dealworks, PitchPro++, FactSet, Thomson Eikon, AlphaSense, BamSec.

Objectives of the project: CRG Investment banking intern is responsible for helping out the CRG team based on the sub-sector or team assigned.

Major learning outcomes: 1. Got to learn the corporate know-hows and Do's/DON'Ts
2. Learnt the importance of Attention-to-detail
3. Got to learn how the investment-banking industry works
4. Got to learn various SEC filing components (10-K, 10-Q, 17-C, etc.)
5. Got hand-on-experience on excel and ppt shortcuts
6. Post-trainings on Accounting, Valuation and Company Analysis helped me refresh my knowledge of these topics
7. Various execution training helped me understand how a deal finally progress in the investment banking world
8. After doing the internship project, became much more confident in the domains of investment banking and helped me understand finally what really is a deliverable to a client as an investment banker

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My coverage sector in J.P. Morgan CIB was Consumer & Retail sector across geography-based but primarily aligned to the APAC region. Consumer & Retail sector mainly includes businesses in the following sub-sectors: food, beverage, dairy, meat & protein, internet/e-commerce, household, and personal care, beauty and healthcare, restaurants and QSRs, and luxury items. My front-bankers were based in Singapore. I went through 2 rounds of training: the first one was a general training for all interns which included training on accounts, valuations, comps, PPS, etc. while the second one was team-specific training such as on the trading and transaction comps templates used in the team, NTM charts, etc.. The working hours is quite hectic and long working hours but some weeks could be chill as well. The overall team is quite understanding and ready to assist in every small/minute problem possible. Overall I liked the work also working across two teams gave me a great exposure. My team also gave good feedback to me and overall I learned a lot.

Academic courses relevant to the project: Fundamentals of Finance and Accounting, Business Analysis and Valuation, Security Analysis and Portfolio Management, Financial Management.

PS-II Station: JPMS CIB R&A Data Science, Mumbai

Faculty

Name: Saikishor Jangiti

Student

Name: VARUN PARTHASARATHY (2017B3A70515H)

Student write-up

Short summary of work done during PS-II: The task was to build pipelines to identify anomalies in transaction data across various lines of business. Any transaction has multiple attributes in it, for example, quantity, price, instrument type etc., and these attributes are reported differently for different lines of business. The idea is to use ML models and data mining techniques to identify patterns in data on the fly and use those patterns to identify potential anomalies. The issue is that there are millions of transactions coming in every day, which necessitates the use of big data modules to load and manipulate transaction data, as well as to implement data mining techniques.

Tool used (Development tools - H/w, S/w): Spark, Hadoop, pandas, numpy.

Objectives of the project: Identifying anomalies in transaction data.

Major learning outcomes: Big data manipulation, revision and application of data mining techniques.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work is currently being carried out from home. Work hours are flexible, as long as all meetings are attended and

work is done by the deadline. The company does not put extreme pressure and the team members are both approachable and helpful.

Academic courses relevant to the project: Machine Learning, Data Mining, Probability and Statistics.

Name: SIVARAMAN KARTHIK RANGASAI (2017B4A71499H)

Student write-up

Short summary of work done during PS-II: I was given two projects to work on. The first project dealt with building an automation pipeline for computing business related risk based metrics of large amounts of financial data. The second project entailed the task of improving the accuracy of an information extraction model that was in production.

Tool used (Development tools - H/w, S/w): Python, Pandas.

Objectives of the project: Automation pipeline for metric computation, Model enhancement - Improvement of accuracy.

Major learning outcomes: Soft skills like conducting meeting with clients, testing and debugging models in production, taking up a project completely by myself and leading it to completion.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It's a very supportive and encouraging working environment. My colleagues were always available when I needed help. I had the opportunity to go onsite as well.

Academic courses relevant to the project: Machine Learning, Probability and Statistics.

PS-II Station: JPMS CIB R&A Global Research, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: SRIVATS MOHAN (2015B3A40561G)

Student write-up

Short summary of work done during PS-II: I worked with the EMEA Medical Technology Equity Research group. Primary responsibilities included updating financial models for the European companies post quarterly results, submitting estimates for companies' financial progress to investors, and publishing reports on the bank's outlook for the companies' growth. Additionally, I was given ownership of building an entire financial model by myself and used all available resources including company financials and networks to build the bank's thesis on a potential portfolio company.

Tool used (Development tools - H/w, S/w): Bloomberg, Excel, Word, In-house JPM editing tools

Objectives of the project: Build a firm understanding of companies' financial models and publish reports for investors and the IB division.

Major learning outcomes: Report writing, financial modelling, Bloomberg terminal.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working with the European group ensures suitable working hours (on account of shorter time difference). European supervisors are higly cordial and accomodating when it comes to the Intern's preferences among

different projects and provide the Intern with adequate time and resources to work on projects. Additionally they act as brilliant mentors enabling an Intern based out of India to explore a different financial geography.

Academic courses relevant to the project: Fufa, Business Analysis and Valuation, Financial Management.

Name: CHALLA SAI ROHITHA (2017B3A31403H)

Student write-up

Short summary of work done during PS-II: Financial model templates, financial forecasts and estimates and how to update a stock's model whether it be half-yearly reporting or quarterly reporting ones. Equity research regarding buy, sell or hold rating of some sort.

Tool used (Development tools - H/w, S/w): Bloomberg, Excel, Powerpoint.

Objectives of the project: All the daily reports generated in Equity research is all about giving a buy, sell or hold rating of some sort. All the fundamental and financial analysis done was to give a take on that.

Major learning outcomes: I learnt about the intensive research the company conducts for each and every note published on Morgan markets and tools used for it and about the financial model templates, financial forecasts and estimates and how to update a stock's model whether it be half-yearly reporting or quarterly reporting ones. Attending financial results calls helped me understand the analyst's point of view during the Q&A sessions and what are the important details which are to be paid attention to while at call. Working on the financial models preparation and updating models in strict and small deadlines made me understand how an analyst's day goes on a results release day, which consists of analyzing company's financial position based on estimates vs financial reports, discussing about the further opportunities, growth strategies and the future of the company with the company's employee and arriving at conclusions on what to rate the stock within a short amount of time.

Details of papers / patents: None

Brief description of working environment, expectations from the company: I worked with a team of 3, they were good and patient at guiding. To learn ahead how to build financial models from scratch would help a lot and when it comes to write-ups about company or industry, understanding an analyst point of view is needed. Being proactive, work submitted in-time is appreciated and doubts are always encouraged.

Academic courses relevant to the project: FOFA, FM, BAV.

Name: KOTHA SUMANTH KESHAV (2017B3A71044H)

Student write-up

Short summary of work done during PS-II: Equity research related to buy, sell or hold rating of company.

Tool used (Development tools - H/w, S/w): Excel, Bloomberg, PowerPoint.

Objectives of the project: All the daily reports generated in Equity research is all about giving a Buy, Sell or Hold rating of some sort. All the fundamental and financial analysis done is to give a take on that.

Major Learning Outcomes: • Lot of my learning was based around my sector.
• Got an idea on how the valuation of companies work and also understood about analyzing various financial statements and the flow in between them.
• Understood how powerful VBA and Macros could be in Excel and started applying them to automate some of my day-to-day tasks.

Details of papers / patents: None

Brief description of working environment, expectations from the company: MOST of your experience depends on the sector/ team you get allotted to. The people in my team were friendly. I was given decent time to learn the things that I did not know of. Overall, it was a good place to understand and get introduced to the finance world. Also this role of Equity research might demand you to do decent amount of writing.

Academic courses relevant to the project : FoFA, BAV, FM.

Name: B G VAMSI K REDDY (2017B3A71083H)

Student write-up

Short summary of work done during PS-II: Majority of my work was involved in helping the team publish weekly reports and updating the financial models of the company. Apart from that, I also worked on various BAU tasks as requested by the team.

Tool used (Development tools - H/w, S/w): Excel, VBA, Bloomberg, SNL.

Objectives of the project: Analysing the sector and economic trends to incorporate them while writing reports and updating the models.

Major learning outcomes: We had a five day training at the beginning of our internship that provided skills for accounting, excel, valuation and basic finance concepts along with a brief idea of corporate banking. During the span of this internship, I have learnt about the practical side of equity research and gained an insight into the fundamentals of the sector that I have had the chance to work with. Additionally, I continually gained understanding of cryptocurrency markets as I was responsible for publishing the team's weekly crypto report.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: J. P. Morgan has a wonderful environment to learn about the nuances of the financial world. Inspite of the WFH mode, the team interacted frequently and were supportive and helpful. The company treats you like full-time employees and expects you to work with high accuracy and precision in the given time limits.

Academic courses relevant to the project: FoFA and BAV.

Name: P PRAKASH REDDY (2017B3AA0663H)

Student write-up

Short summary of work done during PS-II: I started working with ASIA-PACIFIC Data-Driven research team as an intern, wherein I worked on translating and summarizing questionnaires, went through major events is Asia region to identify possible alternative data to do data driven research. Meanwhile, learnt good amount of Python for data science and of machine learning, learnt Bloomberg usage and completed all the required training given by the firm. Then, I started working with analytics research team, after my previous, I am glad to be a part of 3 diverse projects taken up by my team, in sectors like banking, energy and chemicals, wherein I did debugging, refactoring, documentation, data quality checking, automation and time complexity reduction and hypothesis testing, all this steps are useful for modelling, automating outputs etc. These results help equity analysts in making report and strategies to make suggestions for investors.

Tool used (Development tools - H/w, S/w): Jupyter Notebook, Bloomberg, IntelliJ IDEA, Excel.

Objectives of the project: My team expect me to be accurate with my work / results and dedication towards the work is mandatory, we need to proactive to ask for work, ask the right questions, communicating with team whenever necessary is the key. I learnt how data-analysts make use of the data to make modeling, how they manage their recurring projects, what to do with increasing data and increasing compilation time.

Major learning outcomes: In these 4 months of the internship, I got to learn a lot, it started well before the internship started with PS-2 time series project and fundamental training. After the internship started, I got into Data-Driven team, where after the meet with the team head, he asked me to learn python data science and he also suggested me a Udemy course "Python Data Science and Machine learning Bootcamp", I completed that course in the weekend to get back into work the next week. I worked on some questionnaire's using python libraries which I learnt in the meanwhile. I learnt what it means to be a JPMC employee after I went through their mandatory learning, for example compliance training, line of business training, maintaining secrecy about research we do, etc. Later on worked with analytics research team where my work is mostly coding in python, refactoring, debugging and automating the results, In one of my projects I got a chance to help my teammate in modelling, I got to know how analysts check the data quality and techniques corresponding it, how visualization is key in modelling and how to choose independent variables in modelling. I also learned how to make good use of Bloomberg.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is really great, have so many bitsians in similar roles, in case of any doubt/issue I reached out to them, my team understood what to expect from me and gave me enough time to adjust and started giving work accordingly, never felt left out in team discussions.

Academic courses relevant to the project: FoFA and BAV.

Name: MADHAV RATHI (2017B3AA0811H)

Student write-up

Short summary of work done during PS-II: The profile is your typical Sell-Side Equity research role. You will be allotted to different teams in various geographies and industries. You will then be required to work in a couple of projects as well as complete BAU tasks.

Tool used (Development tools - H/w, S/w): Bloomberg Terminal, Ms Excel.

Objectives of the project: Equity research

Major learning outcomes: Equity research

Details of papers / patents: None

Brief description of working environment, expectations from the company: Excellent work-culture. No micro-managing as long as you deliver timely. Very helpful and friendly environment.

Academic courses relevant to the project: FoFa, BAV.

PS-II Station: JPMS CIB R&A Markets - Cross Asset Sales and Structuring, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: MOHAK DUDHANI (2016B3AB0554P)

Student write-up

Short summary of work done during PS-II: 1. Basic sales / structuring support: Liaising with the sales and structuring teams and support them in client analysis and monitoring, providing information to the teams on their clients; preparing sales pitches etc.
2. Secondary market monitoring: Updating prices of various deals on the secondary market portal daily.

3. Product pricing: Devise and provide pricing on derivative structures using internal pricing models as per the client requirements.
4. Idea analysis and generation: Working with the Structuring/Sales desks on various flow and tailor-made structuring requests, building models in excel.

Tool used (Development tools - H/w, S/w): Internal Pricing Software, Excel & Excel-VBA.

Objectives of the project: Pricing Exotic structured Products.

Major learning outcomes: Understanding the BS pricing model in its real form, pricing and understanding of structured products.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Its JP Morgan sales, so the working environment is too tight during the work hours, one has to be focused and aware of the mails flowing in form clients. Every numerical detail is important and cannot be overlooked. The team and senior employees never loose their cool though but they expect a lot from you.

Academic courses relevant to the project: Derivatives and Risk Management.

Name: VEMU AROHI (2018A3PS0251H)

Student write-up

Short summary of work done during PS-II: The team, DAG India (Derivative Analytics Group), works directly with local market sales teams across Asia to provide end-to-end product pricing and structuring requirements. The work domain within products is that of Cross Asset FX structuring. The idea is to create and price customized, complex derivative structures for our clients to help them hedge their foreign currency exposures that could be arising out of cash flows

in international currencies. The sales teams are in direct contact with the client and send us the requirements, and then our team prices them on internal software, includes the different hedging, volatility and credit risk charges that J.P. Morgan is exposed to, and creates the legal documentation of the terms of trade. Apart from that, DAG also compiles periodic reports on key developments in the economy, interest rate and currency markets and provides customized market outlook based on internal market research reports.

Tool used (Development tools - H/w, S/w): MS excel, VBA, PowerPoint, Bloomberg, Internal pricing software.

Objectives of the project: Assist the team in BAU and automate the term sheet generation for Cross-Currency swaps.

Major learning outcomes: Learnt about the Fx and interest rate derivative markets in good detail and also about numerous OTC derivative products. Understood the entire life cycle of a trade, from different stakeholders' economic rationale to the finer legal nuances of the deals and conventions followed.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The team was quite understanding and helping. The workload mainly depends on the eagerness and willingness to learn. Work might get monotonous and repetitive but there is always scope for learning about new products / structures if initiative is taken to keep in touch with assocs / manager, who are understanding and helpful. One must have a keen interest in derivatives and their working to enjoy his/her time here.

Academic courses relevant to the project: DRM, FRAM.

PS-II Station: JPMS CIB R&A Markets-Trading, Mumbai

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: GANDHI PATHIK HITESHBHAI (2017B3A30680G)

Student write-up

Short summary of work done during PS-II: The main task of the markets trading team is the development and maintenance of tradable assets such as futures, options and swaps. The team also creates specific client based strategies. Some other tasks are optimization of existing strategies, automation of existing strategies as well as reconciliation of index levels and detection of breaks. The team also sets up reports which are generated periodically and ensures that the strategies are well documented for internal and external use. The Payoffs team is also involved in pricing of derivative products and creation of instruments which facilitate the pricing of swaps. The team also prepares Index rules, factsheets, presentations and other marketing material for different equity derivative products.

Tool used (Development tools - H/w, S/w): The main tools used are Python, Visual Studio Code, HTML, MS Excel, Visual Basic for applications as well as some other in-house applications used at the firm.

Objectives of the project: Assist the team in automation of reports which contain necessary statistical information for market analysis. Besides this, there are certain BAU tasks such as reconciliation and generation of term sheets and index rules which occur on a monthly basis.

Major learning outcomes: Learnt about the reporting framework used in the firm, which is used to generate reports that run on specific indices periodically. Also gained knowledge on how to calculate returns of index baskets using certain algorithms. Also understood the financial impacts of corporate actions such as mergers, dividends, splits, etc. on stock prices.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Given that the internship was conducted in WFH mode, everyone on the team was really helpful in letting us understand even the most basic things. For the initial couple of months, you are asked to assist the team in carrying out reporting tasks on existing reports, with a mentor to guide you. After that, you are required to work independently on client requests and are also introduced to the Algo (development of new indices) and Payoff parts (pricing of derivates) of the business. The company treats you like full-time employees and expects you to work with high accuracy and precision in the given time limits. The work can get a bit hectic at times and the timings vary depending on the team you are assigned.

Academic courses relevant to the project: DRM, SAPM and FUFA.

PS-II Station: JPMS GR&C Cards Risk Strategy Analytics, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: PHADKE MAYANK RAJEEVLOCHAN (2017B3A80625G)

Student write-up

Short summary of work done during PS-II: I was a part of the business cards acquisition team in JPMS card risk strategy analytics. This team develops, simulates and tests new strategies in the business cards domain. The work is a mixture of data analytics and product management, along with a limited exposure to finance.
My tasks were:

1. Developing a strong understanding of key risk indicators related to business banking and the cards business.
2. Developing simulation codes to test proposed as well as newly implemented strategies in the business cards domain. This allowed us to identify mismatches in the production code and the intended strategy, which would have let to nearly 12% of customers being given inappropriate risk approvals and being assigned erroneous lines, thus unbalancing the business lending portfolio. These mismatches were brought down to under 0.05%.
3. Conducting various data analytics tasks to help in developing new strategies and regulatory requirements.
4. Developing and executing monthly reports on the new acquisitions for any given month, as well as the performance of older acquisitions. These reports are presented to high-level management monthly, with strategic insights.
5. Migrating 2 reports to Tableau, as well as automating codes for various reports. The automation process brought down the time spent on these reports from 1 week to under 20 hours, largely unattended.
6. Analyze various aspects of the 800+ variables used in the team's strategies at a daily level to identify anomalies and trends in consumer and business attributes.

Tool used (Development tools - H/w, S/w): SAS, Tableau, SQL, Excel, PowerPoint.

Objectives of the project: Understanding Card Risk Variables and Strategies, Developing MIS Reports in SAS and Excel, Migrating MIS Reports to Tableau, Automation and Optimization of SAS Based Programs, Adhoc Data Analytics Tasks, Post-Implementation and UAT Testing for New Credit Line Strategy.

Major learning outcomes: Developed an understanding of Key Risk Indicators, Risk Identification, Risk Management strategies as well as ERM Strategies related to Consumer Banking overall and Business Cards in specific / developed a strong handle of SAS, SQL, Tableau, Excel- VBA and Microsoft PowerPoint. Learnt how to work effectively as a part of a high-performance team, improved my presentation skills by making multiple presentations to high-level-management, participated in a number of CSR Events and conducted a number of team events.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment in my team was exceptional. The team members as well as senior management were extremely approachable and supportive. The team made efforts to ensure that the learning curve for new joiners wasn't very steep, and always gave very comfortable deadlines. The team also ensured I had regular exposure to high level management, and I got to regularly interact with directors. The overall structure was very open, the team gave me many opportunities to present in large meetings and collaborate with other teams and divisions on a number of tasks. The timings are 1 PM to 10 PM, and the team only very rarely requires you to work outside these hours. There are regular team-building exercises, fun events and CSR events. There are also frequent knowledge sharing sessions. The team expects you to have a good grasp of a coding language (preferably SAS or R), SQL, Excel and PowerPoint. There will also be sessions to acquaint new joiners with the software used, strategies, KRIs etc.

Academic courses relevant to the project: Computer Programming, Principles of Management, Economic Environment of Business, Microeconomics.

Name: MANAN AHUJA (2018A2PS0300H)

Student write-up

Short summary of work done during PS-II: Automated the Daily Credit Line Decrease (CLD) MIS dashboard, tracking key metrics including the total actioned volume, action rate, reversal rate, reconsideration rate etc. by linking Tableau sheets to SAS servers, it helped me optimize the Daily MIS dashboard generation process and saved 40-45 minutes of manual efforts on a daily basis. Used SAS, SQL to run queries and pull customer profiles data. Also did the loss rates factor analysis (tag-wise) including M6-Yr1, M6-Yr2, M6-Yr3, Yr1-Yr2, Yr2-Yr3 etc. for highly risk tagged customer profiles by generating dynamic views in Tableau having both unit bad rates and dollar bad rates.

Tool used (Development tools - H/w, S/w): SQL, SAS, Tableau.

Objectives of the project: Tracking key metrics to observe the impact of high risk account management strategies on chase card holders for US population.

Major learning outcomes: Got well acquainted with running our strategy codes on SAS, SQL, learnt to generate dashboards using Tableau. Interpreted, analyzed and developed a clear understanding of the various variables, exclusions and HRAM strategies involved in our reports. Learnt about presence of various tags involved in our key strategies while conducting the loss rates factor analysis.
Professional communications: One of the most valuable skills that I have gained from my internship is the ability to speak with people in a professional setting. This made me more confident and will help me sound more mature and experienced in a business setting.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My colleagues were always supportive and willing to help me out at all time. Since, we were WFH the whole time, there were many employee engagements events and fun sessions that helped us connect better with the team and know about our senior leaders. JPMC has a great work culture and working environment, one of the best I have ever experienced.

Academic courses relevant to the project: FM, BAV, SAPM.

PS-II Station: JPMS GR&C CCB Chase 360 Strategy, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: PRAJJWAL PANDEY (2018A2PS0184P)

Student write-up

Short summary of work done during PS-II: Analyse data from various lines of business and external sources to deliver valuable insights and tools.

Tool used (Development tools - H/w, S/w): Python, PySpark, SQL, Excel.

Objectives of the project: Examine credit worthiness of a customer.

Major learning outcomes: Learnt technical skills such as Python, PySpark, SQL and Excel to leverage data and draw analysis. Also gained soft-skills such as collaborating with a global team and breaking down a project into segments to ensure timely delivery.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is great, people are always ready to lend a hand and help tackle any issues. Opinions and suggestions are always welcome, regardless of designation and experience.

Academic courses relevant to the project: Computer Programming, Probability and Statistics.

PS-II Station: JPMS GR&C Corporate Risk - Risk Project Solutions, Bengaluru

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: R THAPASVVIN (2018A3PS0361P)

Student write-up

Short summary of work done during PS-II: I was a part of the solutions in risk projects solutions of JP Morgan and I primarily dealt with internal clients and I worked primarily in Python OCR and Alteryx in automaing manually intensive BAUs and tasks of the firm.

Tool used (Development tools - H/w, S/w): Python, Alteryx, Tableau.

Objectives of the project: Automating several business processes.

Major learning outcomes: I was able to create several alteryx workflows and tableau dashboards by the end of my intern, two tools I have never worked on before. I have also explored several Python capabilities more than just the basic stuff.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was given several development projects and a flexible deadline. I was also trained on tools needed over the course of my internship. I was given considerable amount of freedom in my decision to try and solve a particular issue within the general timeframe.

Academic courses relevant to the project: Computer Programming.

PS-II Station: JPMS GR&C Corporate Risk - Credit Risk Controller, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: SHASWAT TIWARI (2018A4PS0051H)

Student write-up

Short summary of work done during PS-II: Independent re-verification of the data that is sent in external reporting. The data is split into segments and for each segment several reconciliations (verification activity) is performed to ensure that the financial data used for reporting is accurate and complete, to the best knowledge. This is a repeated activity done on a monthly as well as quarterly basis. Apart from this I had the opportunity to work for some internal automation projects as well.

Tool used (Development tools - H/w, S/w): Alteryx, Tableau, MS Excel.

Objectives of the project: Performance of certain regular activity (reconciliation) that is involved for external reporting.

Major learning outcomes: Time Management, Business Communication, Alteryx, Tableau.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: A very supportive workplace, all the employees are friendly and it's a flat organization, you are allowed to interact across the globe, if you have any requirement. Across the globe you will find support that you need to complete the activity or you can get the relevant information that is needed to lean more about JPMC products which you are dealing with and the management also expects

you to ask questions that challenge their understanding and can help them grow to greater heights. As a whole, this is an amazing organization to work in, and I suggest if you get a chance do not pass on this option.

Academic courses relevant to the project: FRAM, DRM, FOFA.

Name: PAMIDI NITHIN KRISHNA (2018A4PS0064H)

Student write-up

Short summary of work done during PS-II: My internship with the market risk controllers team at JP Morgan involved in performing CCAR (comprehensive capital analysis and review) reporting and automating the entire process on alteryx.

Tool used (Development tools - H/w, S/w): Alteryx, Excel.

Objectives of the project: Reperformance of schedule F reports and fully automating the CCAR process.

Major learning outcomes: Alteryx, Tableau, Time management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My teammates as well as manager were very welcoming and I never felt uncomfortable.

Academic courses relevant to the project: FRAM, DRM, FOFA.

Name: NALLAPU SRINIVAS (2018A4PS0658H)

Student write-up

Short summary of work done during PS-II: Work was primarily around performing monthly reconciliations of the firm-wide credit risk data to meet the regulatory requirements. Reconciliations are traditionally done using Excel and the firm is moving towards automation. I got trained on three reconciliations and performed two reconciliations individually as owner. I also automated a monthly reconciliation using Alteryx to reduce the process time and negate the possibility of a manual error. Apart from BAU, I was allotted two projects - one in which I worked on investigating credit data to find data feed issues and the other was a documentation project.

Tool used (Development tools - H/w, S/w): Excel, Powerpoint, Word, Alteryx, Internal Software.

Objectives of the project: To investigate firm wide credit risk data to find data feed issues.

Major learning outcomes: Learnt about regulatory consumers of the reconciliations, gained insights into probable causes for issues in the data, gained practical project management skills and became a better team player.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Internship was virtual due to COVID. Manager was always supportive and acted as my mentor throughout my internship. I had only few days where I felt stressful due to workload but overall I had manageable work that was allotted and I had sufficient time to finish things. I was allotted a very friendly person as my buddy who helped me with many things throughout the internship. The firm though doesn't expect much in terms of hard skills from interns, it does expect proper communication and willingness to take responsibility.

Academic courses relevant to the project: DRM, BAV, FOFA.

PS-II Station: JPMS GR&C Corporate Risk - Firm Wide Risk Reporting, Bengaluru

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: NAVYA REDDY CHERABUDDI (2018AAPS1238H)

Student write-up

Short summary of work done during PS-II: At the Legal Entity Market Risk Reporting (LEMRR) team, business-as-usual involves market risk reports that are analyzed for various countries over different frequencies, monthly Risk Asset and Liability Committee (RALCOs) reports and quarterly reports.

The two main projects are - (1) Automation of a regulatory report – the manual process involves changing the format of files, and appending data from one file after the other, keeping in mind the particular columns and headings that are similar and discarding the unnecessary ones. Each part, as described above, was split into separate workflows on Alteryx Designer. Once the most optimal workflows were achieved, all the parts were combined and tested to verify if the data was being read accurately. Overall, an 80% reduction in time was achieved. (2) Report statistics of different teams are observed over different factors, these when read in the form of a table are lengthy and hard to understand, often the important metrics are lost. Hence using the provided data, various graphs, with relevant details and smarter timelines were materialized. The tool created analyses performances over a year and has easy troubleshooting as well.

Other work - Integrity testing for one of our most complicated monthly reports. Efforts were made to change a rigid algorithm that was hard coded and make it more dynamic, so that the macro can work even though there are any template changes of edits made to the files used.

Tool used (Development tools - H/w, S/w): Alteryx, Excel VBA.

Objectives of the project: Automation for easier and more efficient outcomes.

Major learning outcomes: Developed good technical (Alteryx, Excel VBA) as well as soft skills. Learnt to work with a team and meet sudden deadlines.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The LEMRR team works alongside a team in Singapore. Both teams were very welcoming from the start, they always provided a helping hand. They are appreciative of the work and the hours you put in and always encourage new ideas and participation. Work-wise, they never fail to meet deadlines and support each other in case of holidays or absences. Overall, they're an engaging and very flexible team.

Academic courses relevant to the project: POE, FRAM, DRM, BAV.

PS-II Station: JPMS GR&C Corporate Risk Credit Risk Middle Office, Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: PRATYAKSH GUPTA (2018A4PS1019P)

Student write-up

Short summary of work done during PS-II: During my PS-II at CRMO JP Morgan, I was part of the EMEA overlimits team. The team looked into the overlimits and exception tickets raised for EMEA clients. I assigned the exceptions queue and my primary task was to resolve the generated exceptions tickets. I was required to investigate each case and reach out to relevant stakeholders

to resolve the issue. Apart from the BAU allotted to me, I worked on a data analytics project in which I analyzed data of last 6 months and proposed solutions to reduce the volume of overlimits we received.

Tool used (Development tools - H/w, S/w): Outlook, excel and internal softwares, mail writing, presentation skills and communication skills.

Objectives of the project: Assist the team to perform BAU. Provide solutions to decrease the volume of overlimits received by the team.

Major learning outcomes: Learnt to about corporate culture, time management and networking.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment is very positive and healthy. My manager was very supportive through out the duration of the internship. The company had strict norms against any type of racism, discrimination and unprofessional behaviors.

Academic courses relevant to the project: POE, Technical report writing.

PS-II Station: JPMS GR&C Credit Forecasting Strategy, Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: YASH GOENKA (2017B2A40746G)

Student write-up

Short summary of work done during PS-II: Analysis of financials to determine valuation benefits in future.

Tool used (Development tools - H/w, S/w): Excel, SQL,Python,Tableau.

Objectives of the project: Analyse the financials and develop a model inorder to increase the over all value of the company.

Major learning outcomes: Got technical and functional understanding of how things work in practical world.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good work culture and the mentor was very supportive through out the duration of the internship.

Academic courses relevant to the project: PoE

Name: AAKASH AGRAWAL (2017B2A40889P)

Student write-up

Short summary of work done during PS-II: I worked with the Risk Appetite Team - Home Lending. I had to make use of various risk parameters (indicators) to determine the riskiness level (high, med, low) of the firm with respect to Home Lending.

Tool used (Development tools - H/w, S/w): SAS, SQL, MS Excel

Objectives of the project: Quarterly Analysis and Reporting of the Risk Level for Home Lending

Major learning outcomes: Learnt about the Home Lending US market, the parameters used to determine risk levels across the firm, and also about SAS & SQL.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment at the firm is probably one of the best. You are treated with respect and as an equal no matter who you talk to. Everyone is always ready to help whenever possible. Good quality work is all that is expected with no ignorance and procrastination.

Academic courses relevant to the project: Fundamentals of Finance & Accounting, Business Analysis & Valuation.

PS-II Station: JPMS GR&C Quantitative Research-Fintech, Mumbai

Faculty

Name: Pradheep Kumar K

Student

Name: BIR ANMOL SINGH (2018A7PS0261P)

Student write-up

Short summary of work done during PS-II: Worked on financial pricing models which help in risk calculation. The work involved working with APIs and creating algorithms to estimate future market rates and creating an infrastructure that helps transform from old pricing methodologies used to new global optimisation based counterparts. The work also demanded writing technical documentations highlighting feasibility of designed solutions, future expansion possibilities and the foundational concepts behind working of the models.

Tool used (Development tools - H/w, S/w): Python, C++, Excel, Word.

Objectives of the project: Identification of feasibility of the pricing models in the new global optimisation based setup and implmenting some parts of it to get a foundation ready for future developments.

Major learning outcomes: Pricing of financial instruments like swaps and derivatives. The need for differential models, their use cases and risk calculation using these models. Writing object oriented industry level code and formal technical documentations. Working in collaborative environment.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Really helpful and friendly team. Work life balance is maintained and encouraged most of the time. Some days were really hectic with work and meetings going on for more than 9hrs but overall it was fun and a good learning experience. The collaborative environment encourages both personal and professional development.

Academic courses relevant to the project: Object Oriented Programming, Data structures and algorithms, Derivatives and Risk management, Financial Engineering.

PS-II Station: JPMS GR&C WCS Process Strategy, Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: R BALA GANAPATHI (2018A4PS0617H)

Student write-up

Short summary of work done during PS-II: This team closely works with the credit people in order to revamp the existing internal credit systems and processes. This role is more of a product role where understanding the credit approval process is really important. I worked on designing new user experience flows for the internal credit processes involving internal systems, modification of the existing templates that go on with these systems - according to the feedback collected from the end users and creation of templates that can be used by various LOBs.

Tool used (Development tools - H/w, S/w): MS Excel, MS PowerPoint, MS Visio.

Objectives of the project: Creating a linear, data driven and automated credit system that can lead to an efficient credit approval process.

Major learning outcomes: Learnt a lot about credit processes and products, the sub-processes that go into the end-to-end credit process. Really improved with my communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: We were given sufficient training modules 2 weeks prior to joining to get familiarized with jargons that are predominantly used. The company's culture is exemplarily inclusive and welcoming. The team members were really helpful and supportive, they made sure I wouldn't hesitate in reaching out to any one them. Got to interact with a lot people and got to know about their work and experiences.

Academic courses relevant to the project: FoFA, BAV.

PS-II Station: JPMS Software Engineering Program, Bengaluru

Faculty

Name: Saikishor Jangiti

Student

Name: PRATYUSH NATH SAHU (2018A3PS0620H)

Student write-up

Short summary of work done during PS-II: Created a standalone Web App with backend in Flask and Python to automate the process of API Health monitoring. The Web App provided a GUI for interaction with underlying Python script which I created for automating the entire process of API Health monitoring using Splunk. API Health monitoring is done daily to predict any probable production issues beforehand so that the team can fix the issues before a customers of Chase Retail Banking Apps on android and iOS, face any problem.

Tool used (Development tools - H/w, S/w): HTML, CSS, JavaScript, Flask, Python, Android Studio, Kotlin, Java, Android Framework.

Objectives of the project: Automation of Daily API Health Monitoring.

Major learning outcomes: I learnt about Full Stack Development and Python Scripting.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Team members are helpful, encouraging and supportive.

Academic courses relevant to the project: Object Oriented Programming, Computer Science Fundamentals.

PS-II Station: Jubilant FoodWorks Ltd- Non-Tech, Greater Noida

Faculty

Name: Nithin Tom Mathew

Student

Name: AMAN SAURAV (2017B1A20494P)

Student write-up

Short summary of work done during PS-II: I was formally selected for the position of Marketing Intern for Emerging Business Unit of Jubilant Foodworks. I was mostly preparing sales reports and Stock Reports using Excel.

Tool used (Development tools - H/w, S/w): I extensively used Excel for the Development of Various Sales Reports and Dashboards.

Objectives of the project: Data Analysis of Sales Reports and Identifying the Breaking up of Funnel.

Major learning outcomes: Learnt the process of Data Driven Decision Making, Data Analysis using Excel.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was OK, sometimes the work got hectic due to deadlines.

Academic courses relevant to the project: FUFA, BAV.

PS-II Station: Juniper Networks, Bengaluru

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: SOMBIT ROY (2017B5A80897P)

Student write-up

Short summary of work done during PS-II: Our product was an FPGA that was to be used in routers and firewalls. I was placed in the design team where I had to design modules that were responsible for flow management of IP packets thorough 100 Gigabit Ethernet. My task included scheduling, hashing, fragmentation, etc. and redirecting the packets to appropriate modules for further processing. For this I had to be study the IPv4 header structure and interconnect protocols like AXI and Interlaken. You will be at an advantage if you are accustomed to the terminologies used in the OSI model in Computer networks. Since I had not done the course, I was feeling a bit confused at first, but with the help of my mentors and a bit of Googling, I learnt it quickly. The entire RTL coding is done in Verilog, and you will be expected to know it thoroughly. Only choose this station if you have a solid foundation in Verilog. You will be working in a Linux based virtual computer, so being familiar with Linux command line is a huge plus. But if not, they will teach you. The IDE used will be Vim or Emacs, which has a significantly steeper learning curve than others like VS Code. The version control will be Perforce, not Git. Again, they will teach you the necessary commands.

Tool used (Development tools - H/w, S/w): Verilog, Vim/Emacs, Linux CLI, Perforce.

Objectives of the project: To design FPGAs for encrypting and decrypting network traffic in Juniper's routers and firewalls.

Major learning outcomes: ASIC / FPGA design flow, Internetwork communication, Internet protocol structure.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Overall, the work-life balance is excellent. The on-boarding process was very beginner-friendly and there were a series of training videos on their company portal which helped me. My manager was very friendly and did not give any work that was too difficult for a new hire like me. He continuously took my feedback so as to ensure I was well adjusted. My co-workers also helped me with any doubts I had regarding the RTL code, waveform simulation, debugging, setting up the virtual computer, etc.

Academic courses relevant to the project: Digital Design, Computer Networks.

PS-II Station: Knolskape Solutions Pvt. Ltd., Bengaluru

Faculty

Name: Sugata Ghosal

Student

Name: SURAJ SINGH (2017B1A10881P)

Student write-up

Short summary of work done during PS-II: The project started with a learning phase having one and a half months duration and then the web application development began with the

submission of the first draft. We went through basic, intermediate and advanced concepts of JavaScript, React, Redux, Node and MySQL during the learning phase. For the remaining part of the internship, the main focus was improving the application features and making it look professional. It was a to-do application with tasks and folders having a proper UI, backend and database.

Tool used (Development tools - H/w, S/w): React, Node(.js), Express(.js), MySQL.

Objectives of the project: To develop a To-do application from scratch using React, Node, Express and MySQL.

Major learning outcomes: 1. Developing UI using react 2. Backend using express and node 3. Connecting the backend with the database and the front-end 4. Proper Version Control.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: They did not expect us to have prior knowledge of web development. They have a structured learning program to help us understand the various concepts related to the project. The working environment was exceptionally supportive and we were allotted mentors for proper guidance. The overall experience was learning-based and they encouraged us to be more and more creative as we developed the application from scratch.

Academic courses relevant to the project: DSA and OOP.

PS-II Station: KPMG, Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: ARYAN CHAUDHARY (2017B5A41588H)

Student write-up

Short summary of work done during PS-II: The aim of the project is to improve the State's performance in the performance grading index across five domains (i.e., Learning outcomes, Access outcomes, Equity outcomes, Infrastructure & Facilities and Governance process). It involves developing an excel tool so that State can assess its districts performance at any point in time, a list of interventions (based on applicability, cost & impact) and a maturity assessment framework to assess the condition of school education so that appropriate intervention can be deployed.

Tool used (Development tools - H/w, S/w): Excel & Powerpoint.

Objectives of the project: To create a toolkit for improving a state's PGI score.

Major learning outcomes: Got a first hand experience of how a toolkit is made & the research that goes into it.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment with plenty of opportunity to collaborate with other employees. Company has a great culture and senior level of management are helping & approachable.

Academic courses relevant to the project: Mostly you should be good in Microsoft Excel, Power BI & Power point.

Name: HIMANSHU CHATURVEDI (2018A1PS0031P)

Student write-up

Short summary of work done during PS-II: I primarily worked on the EdTech segment in the Education practice of KPMG. As a part of the internship I worked closely on a client engagement along with an internship project. In the project I conducted a study on how top K-12 EdTech players are leveraging Digital Marketing to draw potential customers to their website and engage them. To complete my project I had to do a lot of secondary research and collect data related to digital marketing from various online data sources and analyse to identify some key trends. I also did a few primary interviews to back my findings. Apart from this I was also given some small client related tasks throughout the internship.

Tool used (Development tools - H/w, S/w): MS Visio, Microsoft Office.

Objectives of the project: To develop and insight into Digital Marketing tactics by top K-12 EdTech companies which could be used by the firm for future projects.

Major learning outcomes: Secondary Research, Primary Research, Consulting, Working with clients, Working in cross-functional teams.

Details of papers / patents: None

Brief description of working environment, expectations from the company: KPMG has great working environment. The seniors of the firm are very helpful. All they expect from you is to learn quickly and be inquisitive and ask relevant questions and share ideas.

Academic courses relevant to the project: Microsoft Excel, Microsoft Office & Power point.

PS-II Station: Kredx, Bengaluru

Faculty

Name: Ankur Pachauri

Student

Name: NAKUL VASHISHTHA (2018A3PS0044H)

Student write-up

Short summary of work done during PS-II: KredX was founded in 2015, with an aim of solving working capital challenges for business by making use of an asset lying idle in its balance sheet in the name of accounts receivable. Started with Invoice discounting, KredX has now evolved to cater Working Capital Solutions and to solving even bigger problems like early payments for corporate treasuries. I work in the Investor POD team of KredX. Its work involves taking care of the Investor side of KredX, like making the user experience of an investor as smooth as possible, from getting him onboarded to the process of document verification and deal purchases. I am working in the Frontend team, my responsibility is to design and develop stuff as per the design received from the designing team. I firstly learnt the concepts of React, Redux and Redux Saga. Then I went through the documentation of Ant Design Library and started making UI components. Next, I went throught the documentation of styled components and started making the UI components as per the new design provided by the designer. Then I went through the documentation of Storybook and wrote stories for all the UI components.Next I implemented the functionalities of sidebar and topbar. Then I made new email templates for the organization using mailchimp. Then I updated the primary color and logo in everywhere in the website using bootstrap and CSS variables so as to give a new look to the site.

Tool used (Development tools - H/w, S/w): VS code, Git version control.

Objectives of the project: Software development to implement new features for KredX.

Major learning outcomes: React JS, CSS, Javascript, Git Version Control.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working at KredX has proved to be a great learning opportunity for me, the team is very supportive and creates an environment to foster great learning. I've learned about a lot of concepts involved in Front-end development and would continue to learn a lot more, the tasks assigned to me require me to push my limits to learn and experience a lot of different areas of frontend development. The colleagues and seniors here are always willing to help and guide in the right direction.

Academic courses relevant to the project: Object Oriented Programming.

PS-II Station: Krishi Network (Cultino Agrotech Pvt. Ltd.,), Gurugram

Faculty

Name: Febin A Vahab

Student

Name: AAYUSH MALIK (2017B4A21559H)

Student write-up

Short summary of work done during PS-II: The work revolved around the increasing user growth using various methods involved.

Tool used (Development tools - H/w, S/w): Google Sheets, IVR, Facebook Ads, Google Ads, Google Console.

Objectives of the project: To analyze the current growth channels and suggest improvements.

Major learning outcomes: Learnt about various methods companies use to increase user acquisition and user time spent on the product.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was challenging as you had to learn a lot on your own and deliver. As it is a startup and just like any startup the working environment was fast paced.

Academic courses relevant to the project: OOPs.

PS-II Station: LOGIQ LABS Pvt. Ltd., (eShipz.com), Bengaluru

Faculty

Name: Rejesh N A

Student

Name: RISHEE RAMESH (2018A8PS1026G)

Student write-up

Short summary of work done during PS-II: Responsible for selling various services offered by eShipz. In charge of generating leads for an affiliate program which involved sharing customer bases and white label solutions for the partnering companies. Crafted corporate messages for various avenues in the lead generation program. Attended a startup cohort on the behalf of the company and created a report on it. Worked on a return management system widget and created a user flow chart and basic wireframe for it.

Tool used (Development tools - H/w, S/w): Freshsales, Figma, Drawio, LinkedIn, LinkedIn, Sales Manager, Excel / Google Sheets.

Objectives of the project: Increase reach to potential clients and affiliate partners. Provide a detailed report on the North American SaaS industry and how to expand in Canada. Create a basic wireframe and user flow chart for the RMS widget.

Major learning outcomes: Learnt about corporate partnerships and professional communication with clients.
How to do cold message and cold email.
Basic Figma knowledge.
How to generate leads on LinkedIn.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Very healthy work environment. Founders and mentor were very kind, and spent time with me to explain what was required. The company had very reasonable expectations and gave sufficient time to complete the work given. Overall a great experience.

Academic courses relevant to the project: FM, TRW.

PS-II Station: MAF Technologies Pvt. Ltd., - Tech, Bengaluru

Faculty

Name: K Venkatasubramanian

Student

Name: PINTO RICKSTON LANCON (2018A8PS0986H)

Student write-up

Short summary of work done during PS-II: I worked on creating the user interface by front end development in the admin and user dashboards (with components for data visualization), login and account creation and even the landing page for a new SaaS product the company is developing.

Tool used (Development tools - H/w, S/w): HTML, CSS, Javascript, JQuery, Ruby on Rails, Git.

Objectives of the project: To enable users to access and customize courses for their schools.

Major learning outcomes: Learnt many User Interface Development Technologies.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is great, the team members are friendly and helpful.

Academic courses relevant to the project: Human Computer Interaction.

PS-II Station: MapmyIndia (CE Info Systems Pvt. Ltd.,), New delhi

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: DESAI PRAKRUT SHETALBHAI (2018A7PS0169G)

Student write-up

Short summary of work done during PS-II: My project was of the core application of Deep learning in Geospatial Analysis and Image processing. I was assigned with the task of contributing

to the Research and Analysis of Low resolution Satellite imagery. We developed Methods to use SAR data to detect camouflaged Building footprint and use of NDVI to detect crop patterns and probability of Drought.

The second task was to develop a Deep Learning Model for the Satellite Image segmentation to extract Building footprint on high Resolution Satellite imagery.

Apart from building a model to extract Building footprint information, I also analyzed and researched with the company faculty on the traditional applications of optical Satellite imagery for long range analysis. The model we prepared is for the large scale Infrastructure developers and Government to utilize information for better policy decisions and sustainable development.

Tool used (Development tools - H/w, S/w): Keras, Tensorflow, QGIS, mGIS, Python.

Objectives of the project: 1. Analyse Large Scale Patterns from Low resolution Satellite Imagery 2. Extract Building footprints from High resolution satellite Imagery.

Major learning outcomes: 1. Learned Applications of Deep Learning in Geospatial Analysis 2. Corporate Team work 3. Learned Research and Analysis Methods 4. Improved Presentation and Communication Skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: MapmyIndia has created a market segment, bringing India on the global-map of navigation and telematics and location intelligence. With over 22 years of technological innovations in Mapping technologies, the company has built comprehensive, accurate and feature enriched map datasets. These maps are professionally curated, continuously updated and used in navigation, telematics, analytics, and location based services. These maps enable the Internet of things platforms and mobile applications. Their mapping applications are used extensively to provide solutions in Smart City projects, Electric and Autonomous Vehicles and many more recent disruptive technologies.

With Multiple small teams focused in researching new tools to improve geospatial analysis, Company provides vast resources for their state of the art research.

Academic courses relevant to the project: Academic Courses like Neural Networks and Fuzzy Logic, Computer Programming, Principles of Management were helpful and relevant to the project.

Name: SAI HARSHA REDDY (2018A7PS0288H)

Student write-up

Short summary of work done during PS-II: Market research and brainstorming of ideas to introduce to the application we were tasked to work on. UI/UX prototyping and development of app. Testing and resolving any bugs. Development of new database mangement features in App Dashboard (web portal).

Tool used (Development tools - H/w, S/w): VS Code, Figma, Git, React Native, React JS.

Objectives of the project: Development of Pray App and dashboard.

Major learning outcomes: Javascript, Application development -> Testing and release.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Worked from 10 AM - 4-00 PM Monday to Friday, with team meets at start and end of the day to give updates of work done. Mentors were willing to help and supportive.

Academic courses relevant to the project : OOP / DSA / Software engineering.

PS-II Station: MBB Labs Pvt. Ltd., (Maybank), Bengaluru

Faculty

Name: Pravin Yashwant Pawar

Student

Name: MAHESH SWAMINATHAN (2018A4PS0982H)

Student write-up

Short summary of work done during PS-II: Work done mainly in web application development. I had to create UI for many features, fix bugs and write tests.

Tool used (Development tools - H/w, S/w): Spring MVC, SQL Server, Javascript.

Objectives of the project: Development of web application.

Major learning outcomes: Web Development, Software Engineering.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is relaxed. Company expects you to work well in a team and contribute according to your capability.

Academic courses relevant to the project: OOPs, Software engineering.

PS-II Station: Mercedes Benz, Bengaluru

Faculty

Name: Shashank Mohan Tiwari

Student

Name: NARVEKAR UTPAL RAJEEV (2017B5A40141G)

Student write-up

Short summary of work done during PS-II: Developed a tool using Python to automate nomenclature standardisation in GT-Suite software. Developed a memory tool using Python to sort through folders. GT- Suite is used by MBRDI to run 1D CFD simulations on their carlines. Some landscaping research.

Tool used (Development tools - H/w, S/w): GT-Suite, Python, Anaconda.

Objectives of the project: Development of a tool for nomenclature standardisation.

Major learning outcomes: Gained considerable proficiency in 1D CFD simulations and Python.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very good. I was working from home. The colleagues are just a call away on Microsoft Teams. They are all very helpful. Comapny has no expectations on entry regarding software knowledge. They give you time to learn. At the end of the training you are expected to know your stuff.

Academic courses relevant to the project: Heat Transfer, IC Engines, Fluid Mechanics, Programming.

Name: VADRANAM MANIKANTH (2017B5A41142H)

Student write-up

Short summary of work done during PS-II: 1) An extensive literature survey has been done on CFD, meshing, prism layers to capture the Turbulent Boundary Layer, wiper aerodynamics.
2) Developed & automated a robust & structured methodology - workflow using CPP programming, user interactive shell scripts for migrating wiper performance evaluation from STARCCM+ (paid Licensed software) to OpenFOAM Software (open-source).
3) Reduced the user time expenditure to set-up a case from ~40 hours to 30 minutes (80 times faster workflow) with a unique, effective & self-developed technique using multi-disciplinary knowledge.
4) Tested & verified the workflow for 2 different carlines, still the pressure profiles need to be matched.

Tool used (Development tools - H/w, S/w): OpenFOAM, CPP, Shell scripts, Python programming, CFD.

Objectives of the project: Migrating wiper performance evaluation from STARCCM+ (paid Licensed software) to OpenFOAM Software (open-source).

Major learning outcomes: Computational Fluid Dynamics, Structuring the workflow, learning the programming, read & write the text files using CPP Python.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: An excellent place to kick start a research career in mechanical domain. A very supportive mentorship. Learning from a highly knowledgeable colleagues. One can explore multi-disciplinary knowledge from the various workshop and research papers library available in MBRDI.

Academic courses relevant to the project: CFD, Fluid mechanics, C programming.

Name: GATTEM SAI GOVIND (2017B5A41636H)

Student write-up

Short summary of work done during PS-II: Accident injuries are a result of complex interaction between various factors with various stakeholders. The objective of this project is to prepare a machine learning based model which can identify and predict the highest level of injury sustained by an occupant involved in a road traffic accident.

Tool used (Development tools - H/w, S/w): Python, MS Excel.

Objectives of the project: To apply machine learning algorthms to analyse occupant injury severity in acccident databases.

Major learning outcomes: The project was a good introduction to Machine Learning and accident analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is extremely supportive. Ablility to learn and work independently is key. However, the employees are always approachable to help you out.

Academic courses relevant to the project: Mechanics of Solids, Fluid Mechanics.

Name: RAMINENI PHANINDRA (2018A4PS0131H)

Student write-up

Short summary of work done during PS-II: I was working on multiple project currently undertaken in the digital technologies team. Most of them are related to signal processing and image processing domains. One of the main projects I've worked on is a sound based vehicle diagnosis framework. Some projects involved data analysis and mathematical modelling.

Tool used (Development tools - H/w, S/w): Matlab, Sumulink, CATIA, ANSA, Python.

Objectives of the project: Signal processing based vehicle diagnosis framework.

Major learning outcomes: In depth knowledge about vehicle sub-systems, design and validation techniques, mathematical modelling and non-linear optimization.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Being a research oriented company, each team / department works on developing state of the art frameworks / technologies. The employees are highly qualified and knowledgeable in their domains. The team provides you with all the resources and training required for you to complete your project. The team expects you to be punctual in meeting your deliverables.

Academic courses relevant to the project: Machine Design and Drawing, CAD, Finite Element Method, DSA, Machine learning, NNFL.

Name: SHAH ANSH SANDEEP (2018A4PS0525P)

Student write-up

Short summary of work done during PS-II: Work was on the integrated design of a cradle for the new Mercedes Benz EV series. This work was pertaining to the drivetrain / powertrain development team where we worked on improving the efficiency of existing components or on development of new technologies.

Tool used (Development tools - H/w, S/w): NX, ANSYS, ANSA, A2Mac1, SPSS.

Objectives of the project: Create an isolation system that separates the cradle from the EDU to reduce the noise between Cradle-EDU interaction.

Major learning outcomes: Learnt in-depth concepts about CAD modelling, Simulations, etc.

Learnt a great deal about the working of EVs and their components.
Did data collection / analysis from A2Mac1 to get knowledge of competitor technologies used.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was an online internship completed remotely, a laptop was provided by the company to facilitate easier communication and all the softwares were already available. There were regular meets to ensure full understanding of the project and to discuss progress. In turn the company expected us to work diligently and make sure that we ask any/all quesitons that we may have.

Academic courses relevant to the project: IC Engines, CAD, Machine Design and Drawing.

Name: SHAH ANSH SANDEEP (2018A4PS0525P)

Student write-up

Short summary of work done during PS-II: Designing of a cradle EDU system to reduce the vibration and noise from the set up.

Tool used (Development tools - H/w, S/w): NX, A2Mac1, ANSYS, Espacenet.

Objectives of the project: Reduction of noise coming from the cradle-EDU system owing to isolation techniques.

Major learning outcomes: 1) Learnt the use of advanced CAD softwares 2) Learnt how to make simulations on ANSYS and perform stress analysis 3) Data collection through A2Mac1 and Espacenet.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment although online. Frequent calls with team members and managers was ensured to make sure work was happening smoothly.

Academic courses relevant to the project: ICE, Advanced Mech Sol, CAD.

Name: SHUBHAM BANSAL (2018A4PS0530P)

Student write-up

Short summary of work done during PS-II: Main work was to optimise the air guides during high aero load case. As the software MPCCI was new to the company also, did some case studies related to Fluid-Structure interaction as well to validate the software.

Tool used (Development tools - H/w, S/w): Star-CCM+, Abaqus, Mpcci, Hyperview, Hypergraph

Objectives of the project: Develop a methodology to simulate Fluid-Structure Interaction cases with 2-way coupling.

Major learning outcomes: Got to know about the in-depth knowledge of Fluid Structure interaction cases and different methodologies that can be adopted for solving them. Also, explored Star-CCM+ software and learned different techniques to opt while doing CFD case studies.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: MBRDI is the perfect place if you love automobiles, and are interested in research that goes into making a brand a customer's preferred choice. The team treats you as an employee and a fellow team member, and not as some intern. The amount of freedom to explore whatever you want to is unmatched. The mentors are supportive of your ideas and appreciate your work.

Academic courses relevant to the project: Fluid Mechanics, CFD, Mechanics of Solids.

Name: KARTIKEY SINGH BHANDARI (2018A4PS0545P)

Student write-up

Short summary of work done during PS-II: Battery thermal runaway occurs in lithium ion batteries when there is some mechanical,thermal or electrical abuse. This may result in a fire. The task of the project was to do modelling of this fire. Literature survey was done in the initial days to determine the best available practices for predicting flame parameters. After this a literature was selected which was used for validation. The modelling of the flame was done in Star CCM+. Appropriate turbulence,combustion and radiation models were chosen. Then these simulation results were compared with the literature results and validation study was done. Different models in Star CCM+ were also compared with each other.

Tool used (Development tools - H/w, S/w): Star CCM+, MS Excel.

Objectives of the project: Modelling of a flame and validation study.

Major learning outcomes: 1. Fundamentals of combustion and fire 2. Star CCM+ 3. How to read research papers 4. More concepts in CFD.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is friendly. The mentors are really helpful.

Academic courses relevant to the project: Fluid Mechanics, Heat transfer, Thermodynamics, Numerical Fluid Flow and heat transfer (or CFD).

Name: ADITYA TRIPATHI (2018A4PS0564P)

Student write-up

Short summary of work done during PS-II: Made a code to classify flexion / extension motion of Human Arm controller. Modified a DDPG code for Active HBM arm controller to predict muscle lengths during movement of the arm. Analyzed the fracture of Femur bone during a pedestrian crash.

Tool used (Development tools - H/w, S/w): Python, LS-Dyna, ANSA.

Objectives of the project: Development of Human Arm controller for active HBM.

Major learning outcomes: Machine learning, Reinforcement learning, Finite Element Analysis.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work culture is great and very demanding. The company expects you to work for 9 hours a day. The people are really supportive and always ready to help.

Academic courses relevant to the project: Computer Programming, Finite element method.

Name: SHUBHAM SINGH (2018A4PS0577H)

Student write-up

Short summary of work done during PS-II: I worked with the CAE department on crash simulations. The team's objective is to increase pedestrian safety at the time of a crash. I worked on different crash simulations to validate hardware results.

Tool used (Development tools - H/w, S/w): Ansa, LS Dyna, Animtor.

Objectives of the project: Validation of small animal impactor with carlines.

Major learning outcomes: Learnt new softwares.

Details of papers / patents: Can't share

Brief description of working environment, expectations from the company: Working environment was great. Everyone was really helpful.

Academic courses relevant to the project: Strength of materials.

Name: DEEPIT OUZU JAMES (2018A4PS0588P)

Student write-up

Short summary of work done during PS-II: Worked with the power train cooling team. Major project was implementing a shutter control system but there were also some work in GEM3D, spaceclaim relating to converting CAD data into GT-ISE components. Every now and then there would also be some other general work depending on the work load.

Tool used (Development tools - H/w, S/w): GT-Suite, GEM3D, SpaceClaim, Simulink.

Objectives of the project: Developing a shutter control system for thermal simulations.

Major learning outcomes: 1-D simulation, More in-depth understanding of cooling systems in cars.

Details of papers / patents: No papers / patents were made

Brief description of working environment, expectations from the company: The employees are all experienced engineers with plenty of knowledge in their field. They were all really helpful in clearing doubts, training etc. Really professional working environment.

Academic courses relevant to the project: Heat Transfer, Fluid Mechanics, IC engines, Automotive Vehicles.

Name: SHETH RAHIL PARAG (2018A4PS0590P)

Student write-up

Short summary of work done during PS-II: PS-II started with a 1.5-month long training period, in which I was taught the basics of FEM and software like ANSA, Nastran, Abaqus, MetaPost, Hyperview etc. Basics such as uses of FEM in NVH, meshing, software specific solution types, definition cards and elements were covered. After the training period, I was first given a task to identify and eliminate squeak in a door trim model using Nastran. However, since Nastran is a contact linear solver, it was unable to identify squeak. Hence, given the task to determine whether it was possible to obtain quick and accurate results using Nastran to run contact non-linear analyses without defining contacts. To experiment various methods, I did all the analyses on a 2-cantilever plate model. I was then given a door model to do the same on. It sometimes takes weeks to run heavy models on Abaqus, so the idea behind the project was to reduce the time that it takes to run Abaqus jobs, by running them on Nastran with minimal modifications and obtain a similar level of accuracy in results.

Tool used (Development tools - H/w, S/w): ANSA, Nastran, Abaqus, MetaPost, HyperMesh (basics), Hyperview (basics).

Objectives of the project: To identify and eliminate squeak in a door trim model using Nastran; to determine whether it is possible to obtain quick and accurate results using Nastran to run contact non-linear jobs.

Major learning outcomes: Basics of FEM, design and validation procedure of an automobile.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Despite this being a remote internship, it gave me a clear idea of how the work environment is. The team that I was a part of was extremely helpful, courteous, and patient. This was my first experience with FEM, and I faced a lot of difficulties in the beginning, but none of my doubts were carried forward to the next day - they were solved immediately either by my internship mentor or anyone else from the team. They gave me the perfect amount of work - I didn't feel burdened, but at the same time I was given enough to keep myself interested and working. I was expected to present whatever my progress was every Friday. However, it was quite flexible, and they made sure that the presentations help me in keeping a track of my work, and don't just increase my pressure. Overall, it was a pleasure to work with them and for a prestigious company like Mercedes-Benz.

Academic courses relevant to the project: Mechanical Vibrations.

Name: RATNESH DAWAR (2018A4PS0629H)

Student write-up

Short summary of work done during PS-II: My work in RD I/CCS and it is related to method development for simulation multidisciplinary caseloads like electrical thermal and mechanical loads that occur during a car crash. I started this multi physics simulation with basic load case and then extended till whole full car model. Lsdyna is used for simulations.

Tool used (Development tools - H/w, S/w): LS DYNA, ANSA, META, LSPREPOST.

Objectives of the project: Multiphysics simulaiton of electric car crash.

Major learning outcomes: How to do multi physics simulation in in Ls dyna, Ansa basics, Contacts in ls dyna, Basics of ls dyna.

Details of papers / patents: Under process

Brief description of working environment, expectations from the company: Timings were pretty flexible for me since it is wfh. Everyone is very supportive and eager to help you there.Outlook and teams were used for meeting and other communication. You are responsible for your project, and receive full creative Independence and all they expect from you to deliver the required things.

Academic courses relevant to the project: Solid mechanics, Machine design, Heat transfer.

Name: AKASH HARISH GUDI (2018A4PS1009G)

Student write-up

Short summary of work done during PS-II: The work at the PS station involved validating the feasibility of using Machine Learning in predict the Doortrim sensitivity and Intrusion during a side crash. The project involved collecting data, selecting and optimizing a model as well as plotting results to draw conclusions.

Tool used (Development tools - H/w, S/w): Jupyter-lab, Python, Ansa beta cae, Animator a4, ls-dyna.

Objectives of the project: Validating the feasibility of using Machine Learning in predict the Doortrim sensitivity and Intrusion during a side crash.

Major learning outcomes: How to approach a practical Machine Learning project as well as the tools and software required.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company work environment is one of an MnC, where you will mainly interact with your colleagues on a professional level. The management is very helpful, welcoming and supportive. The buddy system makes it very easy to get adjusted and helps you focus on your work more than fitting into the environment.

Academic courses relevant to the project: Machine Learning.

Name: LAKSHIT MITTAL (2018A4PS1033P)

Student write-up

Short summary of work done during PS-II: Internship Topic: Evaluation of SPH based methodology for exterior water management simulation.

Background: Multiphase simulations using conventional CFD methods like FVM for water management problem are computationally very expensive and time consuming due to the required fine mesh resolution. But, during the initial phase of vehicle development, it is very important to assess the design modification in short turn-around time.

So, SPH methodology which generally requires less manual effort for pre-processing and also the computational time is comparatively less, is being evaluated for water management simulation as an alternative to traditional FVM solvers.

Objective: Apply SPH methods for the prediction of side-window soiling and compare the results with those obtained from conventional FVM methods (using StarCCM+) and evaluate the applicability of SPH methods to strongly coupled flows.

Tool used (Development tools - H/w, S/w): Star CCM+ & PreonLab.

Objectives of the project: Apply SPH methods for the prediction of side-window soiling and compare the results with those obtained from conventional FVM methods (using StarCCM+) and evaluate the applicability of SPH methods to strongly coupled flows.

Major learning outcomes: Learnt about industry leading software used by the CAE experts in the team, like Star CCM+ & PreonLab. The amount of exposure one receives after getting into MBRDI & working with the whole team is invaluable. This internship has helped me improve upon not only my technical skills, but also my interpersonal skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: MBRDI is the pinnacle of CAE and automobile research in India. The people are extremely knowledgeable and helpful. Not only my mentor, but the team as well was always available to help me out during my internship. MBRDI expects students to learn during the initial phase of the internship and provides all the necessary tools and an excellent infrastructure for that. All the interns are pretty much treated like regular employees and are always encouraged to take responsibility.

Academic courses relevant to the project: CFD, NFFHT, Fluid Mechanics.

PS-II Station: Mishra Dhatu Nigam Limited, Kanchanbagh

Faculty

Name: Annapoorna Gopal

Student

Name: MILAN MANOCHA (2016A5PS0753H)

Student write-up

Short summary of work done during PS-II: Implemented various analysis method that can result in improvement of inventory management and reduce costs of the manufacturing facility or warehouses that stores raw materials and suggested them to the company.

Tool used (Development tools - H/w, S/w): MS Excel.

Objectives of the project: To apprehend the concept of stock management as a primary approach for a production organization.

- To analyze various inventory models and its application in MIDHANI Ltd.
- To have a look at the mode of inventory management techniques.

● To suggest appropriate measures for the efficient inventory management.

Major learning outcomes: Learnt how to carry out various analysis in the inventory management domain. For example, ABC analysis, VED analysis and EOQ.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Expects student to behave professionally, following the codes of the company being a government enterprise. Want them to be eager to learn and potentially somehow add value to the company.

Academic courses relevant to the project: Mechanical oriented.

Name: VMMANAGARI SAI VARUN REDDY (2016B5A20589H)

Student write-up

Short summary of work done during PS-II: We have done multiple assignments at MIDHANI, the most prominent would be inventory management analysis done followed by SWOT analysis. The company initially used JIT(Just in time) management for inventory, where we found scope for improvement. For a 5 years of inventory data, we have prepared Fixation levels, EOQ, ABC analysis, VED Analysis. We provided problems with inventory management and solutions for it. We also suggested multiple strategies for the overall improvement of the organization.

Tool used (Development tools - H/w, S/w): M.S. Excel.

Objectives of the project: Study of inventory management at MIDHANI.

Major learning outcomes: -MIDHANI history, organization structure and work done by individual departments.
-Inventory management techniques, their financial impact on the organization.
* Understocking, Overstocking problems
* Problems with using just JIT

* Using ABC for improving tactics
* Using VED for reducing losses and being careful of what inventory to focus on
* Using Fixation Levels, EOQ for monitoring stock levels
-I have improved on my communication skills, working with team, report writing skills, planning and decision making.
-Advanced M.S. Excel functions.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Encompassing everything we found the company to be welcoming and there were no pressures from the company. The complete work done was on our own, while the company provided the data. We hope the company follows through our suggestions, since they would be quite helpful in financial front. We expect company to understand the importance of improving inventory management through our project.

Academic courses relevant to the project: FOFA, BAV, Inventory management.

Name: PRATEEK KUMAR JHA (2017A8PS0803H)

Student write-up

Short summary of work done during PS-II: Inventory management in manufacturing corporations is needed for smooth running of production activities. Inadequate stock control will cause stoppage of production and huge losses. A massive quantity of inventory may be stored idle. Thus, due to storage costs, the company may have to pay interest. On the other hand, inadequate inventory will affect the smooth running of production, which results in loss of sales due to not meeting the client requirements on time. Hence a study is required to analyze and understand the primary problem which is to estimate and maintain the optimum level of inventory. An examination on inventory management of MIDHANI is undertaken to know how inventories are controlled through the business enterprise and various techniques which are used by the

corporation in dealing with the stock effectively. To evaluate the overall performance of inventory many techniques and inventory ratios are used.

Tool used (Development tools - H/w, S/w): MS Excel, MS Word.

Objectives of the project: To apprehend the concept of stock management as a primary approach for a production organisation.

• To analyse various inventory models and its application in MIDHANI Ltd • To have a look at the mode of inventory management techniques.

• To suggest appropriate measures for the efficient inventory management.

Major learning outcomes: Conducted Efficient Market research, learnt about different types of Inventory Management techniques such as the ABC analysis, VED analysis, Fixation of levels, Economic Order Quantity (EOQ), arranging and sorting big data and using the consumption and order levels to determine the period and consumption of raw materials in the company.

Details of papers / patents: An exploratory study was adopted to achieve the objectives of the study and the study was conducted in Mishra Dhatu Nigam Ltd. on “Inventory Management”. The general objective of the study was to analyze the inventory level in Mishra Dhatu Nigam Ltd.

Brief description of working environment, expectations from the company: The working environment of the company is quite efficient and well managed. This being a government PSU company, the regulations are a bit tighter than that of a private company, but our instructor at the company was very efficient and proactive during the whole process. The attendance system here is robust and looked after very well. The working environment was quite helpful and relaxing. All the data that we had requested for the project was given to us very quickly.

Academic courses relevant to the project: FOFA, BAV, Inventory Management, FM, Human resource Management.

PS-II Station: Morgan Stanley Advantage Services, Mumbai

Faculty

Name: Chetana Anoop Gavankar g

Student

Name: R PRATIK KAMDAR (2017B3A70976H)

Student write-up

Short summary of work done during PS-II: I worked with the Equity Exotics Trading Assistant Team, Global Markets. My work included:

1. Automation of Autocall Summary Report Generation: A crucial tool developed to track trades on a daily basis and generate reports which were sent to Traders for monitoring. This included Data extraction, performing critical calculations and bringing it into a reportable format. All with the click of a button.
2. Booking Trades of all sizes on request of the sales team using proprietary softwares of the company.
3. Reviewing Determinations/Trades to come in line with the operations team calculations. Further booking Autocall/Maturity trades and approving payouts using MS proprietary software. This was very critical as any error could cost the company a lot of money.
4. Writing python code to download some critical data from external websites for the TAs to review deals and perform their day to day tasks.

I was also given the opportunity to present my work virtually to Global head of Equity Exotics Trading in the presence of Traders and my Global manager, all from London. It was an enriching experience and good work is always appreciated by the upper management.

Tool used (Development tools - H/w, S/w): Python - Selenium, Pandas, Numpy
Various Internal Trading Software.

Objectives of the project: The main objective of all my projects was contibute the desk in a meaningful manner and to bring down the time taken on manual tasks by automating them.

Major learning outcomes: Working in a trading desk has taught my resilience, diligence, and collaboration.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is one the best compared to other Investment Banks. The work life balance is amazing, you get two paid leaves every month and unlimited sick leaves. My colleagues were very intelligent, supportive and helpful. You get to learn a lot from them. The company expects you to learn and contribute as much as possible and have basic code of conduct while you are here. The hierarchy is also pretty flat, you can interact with EDs and MDs as well. They'd be happy to talk to you.

Academic courses relevant to the project: Derivatives and risk management, Securities analysis and portfolio management, Data structures and algorithm, Object oriented programming.

Name: AROHI JAIN (2017B3A80614G)

Student write-up

Short summary of work done during PS-II: Research and tested various pre-cleaning algorithms for outlier detection.

Tool used (Development tools - H/w, S/w): Python, Pandas and Numpy.

Objectives of the project: Reduce the number of false positives.

Major learning outcomes: How an investment bank works, how to present and make PPT in a big organization and agile framework.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment was good and people were very friendly.

Academic courses relevant to the project: DSA, OOPs.

Name: ANURAG DALMIA (2017B3AA0898H)

Student write-up

Short summary of work done during PS-II: My work involved migration of existing dynamic index classes onto a new portfolio framework. Dynamic indices define a trading strategy on a basket of components. They are a generalisation of market index like Nifty50 with more complex rules to capture a better market view. I was responsible to migrate the code written for different indices to a new framework using Java.

Tool used (Development tools - H/w, S/w): Java, IntelliJ IDEA, Git, KDB+, Excel, Bitbucket, Internal tools.

Objectives of the project: Migration of existing dynamic index classes onto a new Portfolio framework.

Major learning outcomes: Learnt a lot about different strategies that investors employ to outperform the markets or take a specific market view. It was also a great experience to learn about the methodology of the dynamic indices, their implementation and how they help to get better returns.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a very enriching and wonderful experience to work with the QIS Strats team. The work culture is really amazing, starting from the helpdesk, to buddies to the manager. It is really a happy environment

to work in and it probably isnt a very stressful and long hours work. The firm and the manager make sure you feel welcomed. Expected the same from the company.

Academic courses relevant to the project: Object Oriented Programming (OOP), Derivatives and Risk Management (DRM), SAPM.

Name: ARCHAN PARIMAL DESAI (2017B4A70843H)

Student write-up

Short summary of work done during PS-II: Migration of dynamic indices from one portfolio to another.

Tool used (Development tools - H/w, S/w): IntelliJ, Pycharm, excel

Objectives of the project: Migration of dynamic indices from one portfolio to another.

Major Learning Outcomes: Java, Quants, dynamic index

Details of Papers/patents: -

Brief Description of working environment, expectations from the company: The team was very good and very helping. I learnt a lot from the team

Academic courses relevant to the project: OOPs, DRM, SAPM.

PS-II Station: Morning Star - Index Management and Analytics, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: RAGHAV MANTRI (2018A1PS0503P)

Student write-up

Short summary of work done during PS-II: I was in the Index Management and Analytics Team. I was involved in the teams daily tasks that majorly consists of ongoing maintenance of live indexes. Performed QA checks for different Indexes Reconstitution Process. Apart from the daily tasks I also worked on a side project which was to built the internal calculating engine. I performed the UAT(User acceptance testing) for the calculating dashboard so that it can go live in near future.

Tool used (Development tools - H/w, S/w): Excel, SQL.

Objectives of the project: Major objective were 1.to perform the Reconstitution of Indexes 2.Quality Checks 3. UAT for a Product.

Major learning outcomes: Index Construction, Passive Investment Strategies, Portfolio Management Concepts.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: As it was WFH, a lot of things were different compared to a normal internship. But as the time passed it got easier to adapt to the work environment and Morningstar has a really flexible timing and workflow timing. There wasn't much pressure put on me, and the environment was really helpful. The team is very cooperative and supportive. They encourage you to ask questions and learn the concepts. We used to have various fun activities. Morningstar work culture is very good.

Academic courses relevant to the project: SAPM, Fundamental of Finance.

PS-II Station: NAMEKART.com, Noida

Faculty

Name: Seetha Parameswaran

Student

Name: SHIVAM AGARWAL (2017B5A20969P)

Student write-up

Short summary of work done during PS-II: The station is a domain brokerage firm. We had to find potential clients for a domain and contact them.

Tool used (Development tools - H/w, S/w): Google sheets, clearbit, mailtracker.

Objectives of the project: The main objective of the project was to convert the maximum number of relevant leads found into potential clients leading to the overall growth of the company's revenue.

Major learning outcomes: Improved my presentation and oratory skills and also learnt to present data professionally through advanced Microsoft Excel and learnt use of some extensions to improve browsing experience.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Remote, "WFH" model. We were expected to work at least 8 hours a day and the time was monitored using time doctor. We were given tasks either daily or weekly. Manager was helpful in answering any doubts.

Academic courses relevant to the project: FM, Human resource management.

Name: ADITI GAUR (2018B5TS1164P)

Student write-up

Short summary of work done during PS-II: Go to Market strategy and Market funnel optimization- to find the potential buyer and inviting the price query so as to attract the chances for selling the domain name.

Tool used (Development tools - H/w, S/w): Extensions like email extractor, clearbit, mailtrack,mergo, kendo-email finder,apollo.io, Hunter.io, rocket reach etc.

Objectives of the project: The objective of the first project was to formulate the go to market strategy of an upcoming product. The main objective of the project was to convert the maximum number of relevant leads found into potential clients leading to the overall growth of the company's revenue.

Major learning outcomes: Business communication, client handling and meetings made us understand how to communicate in a professional manner at such work places. Got to know the value and importance of domain name brokers and marketing analysts as part of the organization as a whole. focus on conversion funnel optimization in such a way that it increases conversion rates for their brand/organization. With some time, effort, focus, and research, any business is capable of seeing an increase in sales and conversions. Marketing funnel optimization.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Since, it was work from home so i don't have much idea about the real working environment of the company but for us we have to work atleast 8 hours every day and have to complete the given tasks before the deadline assigned by the mentor. The mentor or the team lead assigned were very helpful and friendly and are ready to solve any problem we face during our work.

Academic courses relevant to the project: FM, Human resource management.

PS-II Station: National Chemical Laboratory (NCL), Pune

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: KURRA VENKATA HEMANTH CHOWDARY (2017A1PS0797P)

Student write-up

Short summary of work done during PS-II: We helped the scientist in making a database for a GUI that involved organic flowchem api reactions.

Tool used (Development tools - H/w, S/w): We used acs for data and sql for making the GUI.

Objectives of the project: Making a GUI for a flowchem database.

Major learning outcomes: Literature review, understanding flowchemistry.

Details of papers / patents: As of now there is only one patent owned by our professor.

Brief description of working environment, expectations from the company: It was completely work from home and there were meets over google meet.

Academic courses relevant to the project: Kinetics and reactor design.

Name: JAVDEKAR KUNAL SHIVKUMAR (2017B1A10335G)

Student write-up

Short summary of work done during PS-II: I worked under the guidance of a scientist in various fields involving mathematical modelling and introduction to new experimental concepts like the reaction calorimeter and laboratory determination of kinetic parameters. I also had the privilege of attending various conferences of distinguished personalities like Dr. Uday Maitra, Dr. R A Mashelkar and Dr. Anil Kakodkar regarding topics like academic integrity in research and carbon emission issues of India. I also attended a couple of company conferences for product pitching like the Mettlr-Toledo Particle Tracker and ANSYS CFD simulation talk on scale-up of various industrial processes using simulation. This PS was primarily based on the study done on the types of reactors, their basic equations, exothermic reactions and reaction calorimeters. Furthermore, it also includes a detailed explanation of mathematical modelling process for using reaction calorimeter to determine chemical kinetics and changes in kinetic parameters upon changes in reaction conditions and catalysts.

The primary objective was using reaction calorimeter to determine various kinetic parameters in the laboratories. This method primarily involves using the temperature time profile instead of the conventional rate-concentration profile for determining the kinetic parameters of a reaction. The basis of this method is using the mass balance and energy balance of the reactants to equate rate of the reaction with the temperature time profile. Then, these relationships are exploited to equate conversion and extent of the reaction with the temperature time profiles with the necessary experimental corrections. Finally, rate constant k at any given time t can be calculated which further allows to calculate other factors like the Arrhenius factor Ao and the Activation energy Ea.

Tool used (Development tools - H/w, S/w): Excel PPT Word.

Objectives of the project: Use of reaction calorimeter for chemical process development.

Major learning outcomes: Exposure to new mathematical modelling methods, exposure to new laboratory instruments, exposure to new mechanisms for kinetic parameters determination, exposure to various conferences of esteemed institutions and companies.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was an online mode. My PS Faculty and NCL mentor were very helpful throughout the journey. However, this PS would be way better in offline mode since NCL is a very reputed and well funded Govt. Lab and hence working on the equipment would be a great hands-on experience. The project should be focused more towards publishing a paper of some sort with the student's contribution.

Academic courses relevant to the project: Heat transfer, Mass transfer, Chemical kinetics, CEL-1, CEL-2, PDP-1, PDP-2, KRD.

Name: NISHANT KHANDELWAL (2017B3A11434H)

Student write-up

Short summary of work done during PS-II: My team wanted to assist our mentor at the National Chemical Laboratory in building a database of reactions involving organic active pharmaceutical ingredients for his automation device, which could map all of the parameters of flow chemical reactions such as temperature, solvent, pressure and other variables on which machine learning could be used in the future.

Tool used (Development tools - H/w, S/w): Ms Excel.

Objectives of the project: Incorporating AI with Flow chemistry Technology.

Major learning outcomes: Gained knowledge of API synthesis using organic reactions in Flow chemistry.

Details of papers / patents: In order to challenge established batch production processes, our team focused on flow chemistry applications in organic API reactions. We also look at how NCL is incorporating AI and machine learning into the database in order to create a user interface.

Brief description of working environment, expectations from the company: The experience to work in a collaborative setting where team members support and inspire one other was beneficial.

Academic courses relevant to the project: Kinetics and Reactor Design, General Chemistry.

PS-II Station: National Council for Cement and Building Materials (NCCBM), Ballabgarh

Faculty

Name: Mahesh K Hamirwasia

Student

Name: SONTAKKE AVANTI DIPAK (2017B4AB0613P)

Student write-up

Short summary of work done during PS-II: I conducted a literature review of research papers related to green materials and green construction practices. I conducted case studies on two GRIHA certified buildings.

Tool used (Development tools - H/w, S/w): Minitab.

Objectives of the project: To understand the usage and prospects of green materials, to understand the challenges and suggest remedies to overcome them.

Major learning outcomes: I learnt how to conduct a research project, case studies and literature reviews.

Details of papers / patents: Many papers were reviewed, none published.

Brief description of working environment, expectations from the company: It was WFH, so I am not familiar with the actual working environment.

Academic courses relevant to the project: Materials Sciences.

Name: RONIT SINGH (2018A2PS0567P)

Student write-up

Short summary of work done during PS-II: It was a research project. The title was Optimization of Ultra High Performance Concrete mix. I researched and analyzed a number of research papers about different properties of UHPC and then compared the results. Combined all the optimized results and prepared the report for the most optimized mix design of UHPC.

Tool used (Development tools - H/w, S/w): Excel, Word.

Objectives of the project: Optimization of UHPC.

Major learning outcomes: Learnt a lot about UHPC mix design, the materials, mixing methods, curing regimes, different properties and how it can replace the conventional concrete.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The PS was completely in online mode so working environment in the company can't be commented on. My mentor from the company was very helpful and supportive.

Academic courses relevant to the project: Yes, since I am a civil engineering student all my courses were relevant to the project.

PS-II Station: National Instruments Systems (India) Pvt. Ltd., Bengaluru

Faculty

Name: Rekha A

Student

Name: RAM ASHIYA (2018A3PS0418P)

Student write-up

Short summary of work done during PS-II: Migration of source code from perforce to Azure DevOps in git; automated test suite infrastructure enhancements for improvement in efficiency.

Tool used (Development tools - H/w, S/w): VS Code, Python, Perforce, AzDO, Jenkins, JIRA, etc.

Objectives of the project: To increase squad efficiency for testing owned sustaining drivers and during release testing.

Major learning outcomes: Python test infrastructure for release compatibility testing; Driver APIs; LABVIEW Virtual Instruments. It depends largely on the squad you're assigned to.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: There is a pleasant and supportive work environment. We had interactions with interns at various global offices. We had a session with the CEO, where we discussed his experiences at NI. There are rapport building activities within teams meeting once a month for Bangalore office. There are various projects/ growth opportunities with inter-squad collaboration.

Academic courses relevant to the project: Computer Programming, Object Oriented Programming, DBMS, OS.

Name: ABIZER LUQMANJI (2018A3PS1001G)

Student write-up

Short summary of work done during PS-II: Automated manual tests for LabVIEW core using existing APIs, adding two tests to the daily auto test suite, setup and run the daily auto test suite for LabVIEW core on Linux and macOS using a new test runner and implement a test pipeline for macOS to streamline daily auto test suite runs for LabVIEW core.

Tool used (Development tools - H/w, S/w): LabVIEW, Python, Azure DevOps, various virtualization software- linux, macOS.

Objectives of the project: Automate LabVIEW testing by identifying and automating tests that can be automated using existing APIs; as well as contribute to ongoing research on modernization of test infrastructure by testing an automated test runner for LabVIEW core and listing the challenges involved in setting up and running the daily automated test suite using this test runner on Linux and macOS test machines.

Major learning outcomes: I learnt about LabVIEW and how to design programs in LabVIEW, in depth about software testing and the desktop environments and commands of RHEL Linux distributions and macOS, programming in bash and Python and about Azure Pipelines and programming in YAML.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: This 6 month internship was in work from home mode. Our team had daily standup meetings in the morning to

discuss updates and update our work items on Azure DevOps Dashboard. We had a weekly syncup meeting from members from other teams as well to discuss updates and milestones on the infrastructure improvement project. The project was challenging and provided a great leaning experience.

Academic courses relevant to the project: Computer Programming, Object Oriented Programming.

PS-II Station: Nomura - Change Management Team, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: VIBHOR JAIN (2017B3A10654P)

Student write-up

Short summary of work done during PS-II: I was responsible for running the BAU activities of the new budgeting system. I also worked on creating Power BI dashboards and also automated tasks using Python.

Tool used (Development tools - H/w, S/w): PowerBI, Python, Excel, Powerpoint.

Objectives of the project: Expansion of the new budgeting system to the global regions to enhance granular details.

Major learning outcomes: Project Management.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is good. I got a chance to work with a lot of senior stakeholders and learned a lot.

Academic courses relevant to the project: DRM.

PS-II Station: Nomura Global Finance, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SUNIL KUMAR (2018A4PS0643P)

Student write-up

Short summary of work done during PS-II: I worked in Global Finance division. My team reported directly to senior management on a daily basis. I was given training of reports in the first month which I automated later using macros and python. Other than that I was also part of forecasting project. This project required time series forecasting of expenses. I also automated reports for other teams in my division.

Tool used (Development tools - H/w, S/w): Python (Numpy, Pandas, Matplotlib, ARIMA, xlwings, docxtpl,), Advanced Excel, Word, Powerpoint.

Objectives of the project: Project-I: 1. Analyze expenses for 3 expense lines and use Time series forecasting to forecast expenses for next 12 months. Project-II: 1. Automate working of reports that required excel to word transformation in a particular format with Python.

Major learning outcomes: From the technical point of view, I got to learn machine learning which I used for my forecasting project. I also got to hone my excel skills while working with my daily BAUs and while automating them. I was always working in collaborations, So I got learn a lot about how banks deal with obstacles using teamwork. My teammates were very helpful which made it very easy for me to talk to them which helped me sharpen my communication skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: People at NOMURA are very friendly and supportive. I always got help whenever I needed and it helped a lot in my learning not only in technical learning, but about the business lines of NOMURA as well. Since my PS was WFH only, so I didn't get the chance to go to office but if I had, I am pretty sure my learning curve would have been much more steeper. Nevertheless, working from home gave me a lot of time to work on my projects and my technical skills. You can expect a lot of work and learning here at NOMURA if you are willing to. If you tell them that you have these additional skills, you will definitely get additional work according to that. You will get to learn about different products in finance world. Work might get monotonous if you don't get involved much or ask questions about it. You might get queries from senior management regarding the reports you send, So deep knowledge of your reports is must. Any kind of technical skills you have can and will be used efficiently.

Academic courses relevant to the project: SAPM, Fundamental of Finance.

PS-II Station: Nomura Global Markets, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: PARTH GUPTA (2017B3AB0734P)

Student write-up

Short summary of work done during PS-II: Global Markets has three major divisions. Sales, Structuring and Trading. Sales interacts with the clients. The client requirements are sent to Structuring in order to structure complex customized derivative products for the clients' requirements. Once these structures are approved, the Trading desk takes the corresponding position in the market. I worked in the Structuring division, for the FX asset class, in the Asia-ex Japan region. Most of the work revolved around coming up with ideas for clients to hedge their FX risk. Usually, the clients carry an FX risk because they import/export in huge quantities. Knowledge of DRM will certainly help, and according to me is absolutely necessary for this role.

Tool used (Development tools - H/w, S/w): Company in-house pricing software.

Objectives of the project: Structuring hedging products for clients who carry FX risk.

Major learning outcomes: How complex exotic options and futures are structured. How companies can hedge their FX risk in almost any risk profile they want.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: People are very helpful. Apart from the good old e-mails, there's an internal centralized instant messaging platform, where colleagues can talk to each other. Whenever I had the smallest of doubts (even as small as full form of a commonly used abbreviation), I used to just quickly send a text to one of my seniors, and everyone would always be keen to help.

Academic courses relevant to the project: DRM.

PS-II Station: Nomura Global Risk, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: ADITYAVIKRAM PANDEY (2017B1A10044G)

Student write-up

Short summary of work done during PS-II: Business-as-usual work, daily risk reporting

Tool used (Development tools - H/w, S/w): Excel, outlook and other software particular to the company

Objectives of the project: Daily risk reporting

Major learning outcomes: How to analyze and report risk measurement on a daily basis

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working environment, more or less flexible timings except a few tasks which have strict deadlines; managers and other employees in the firm are very helpful and take out time to help understand the functioning of the firm and your place in the team.

Academic courses relevant to the project: SAPM, DRM.

Name: RAGHAV KABRA (2017B3A30566P)

Student write-up

Short summary of work done during PS-II: - Working in the Prime Brokerage team of the Global Risk Division focused on global markets.
- Identify, monitor and control the firm's exposure to risk, analyze stress test results, and provide analysis on new products and businesses.
- Daily analysis and interpretation of the results of risk sensitivities, validation of risk parameters, and drill-down analysis of less transparent risks and issues of importance to senior Risk management / trading heads.
- Quoting margins and risk numbers for the Prime clients.
- Providing market intelligence and risk analysis to regional and global executive management, CEOs and regional and legal entity boards / committees.

Tool used (Development tools - H/w, S/w): Excel, PowerBI, Macros, VBA, Python, Bloomberg.

Objectives of the project: BAUs, Automation of Reports, Consolidated Reporting.

Major learning outcomes: Advance usage of Analytical tools / software's.
Greater knowledge of the working of IBs.
A deep dive into the Financial world, getting a grasp of the large numbers involved with the industry.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Amazing working environment, amazing team to be a part of very supportive seniors. Average work hours around 5-6 hrs a day. Company expects to not just come and take over the work, but to understand the precision and the working of the system before entering, as every number involved has its own importance.

Academic courses relevant to the project: DRM, SAPM, FINMAN.

Name: APURVA CHAUHAN (2018A1PS0061P)

Student write-up

Short summary of work done during PS-II: My work focused on migration of internal models to GitLab using internal guidelines. This included creating of documents, testing the code for errors, creation of Jupyter notebooks / Excel Macros and creation of Python scripts. Other than that, I was also responsible for assisting the team in their daily tasks, mostly updating files with most recent information using online sources or contacting different teams. Also, I had to convert one of their Excel based model into automated Python script which used Jupyter notebook as the UI. I also had to make user friendly changes to their Excel models so that they are easier to use.

Tool used (Development tools - H/w, S/w): Python (Spyder and Pycharm), Jupyter notebooks, Excel, Advanced Excel (including macros and VBA), Git, Markdown, Internal Nomura software.

Objectives of the project: Migrating models to Git Lab, assisting in daily tasks, calibration using latest data.

Major learning outcomes: I learnt about the models that I migrated. They focused on different financial metrics the firm used and the methodology of their calculations.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very friendly. The team are very welcoming and answer each and every question you have, whether it be genuine or silly. The managers and seniors are also helpful and friendly. The task was explained clearly using online meetings and wherever doubt occurred, the team was ready to solve it. Regularity is important. Attending every meeting is essential and one needs to be interactive. Daily 7-8 hours of logged in time otherwise your manager might ask you about your absence. Keep your manager updated with your work every month or even 2 weeks. Ask your team members for learning material/spare work when free. Keep yourself updated on any

term you don't understand either by asking your manager/members or from the internet. Try to learn as much as possible since this is your primary objective of any internship.

Academic courses relevant to the project: DRM, SAPM, FIN MAN.

PS-II Station: Nucleus Software Export Ltd., Noida

Faculty

Name: Ritu Arora

Student

Name: SAI KRISHNA NEERAJ B (2017B4A80784P)

Student write-up

Short summary of work done during PS-II: To enhance the scope of anomaly detection in a running web application. A Spring web application was set up using a maven build and tomcat. This application keeps track of certain performance metrics that ensures applications' being used by the company work right, and enable us to locate anomalies easily. During the second half of PS work shifted to Database migration, in which certain queries which retrieved data from an old Oracle SQL database needed to be migrated so the queries work on the new database.

Tool used (Development tools - H/w, S/w): Spring Framework, Eclipse IDE for Java EE, Oracle SQL Developer, ANTLR, Apache Tomcat.

Objectives of the project: To enhance the scope of anomaly detection in a running web application. To migrate SQL queries of one Database to another.

Major learning outcomes: Learned about how huge web applications have their performance monitored and how changes required to huge databases are dealt with.

Details of papers / patents: Similar Project: Sigelman, Benjamin H., et al. "Dapper, a large-scale distributed systems tracing infrastructure." (2010).

Brief description of working environment, expectations from the company: We had to work from home due to the COVID 19 pandemic. The company assigned a mentor who received regular updates from us and provided feedback and help wherever necessary. We had fortnightly review meets where our progress, direction and quality of work was assessed while insight and suggestions were provided. They will give you a general direction for a solution to the project problem statement but you have to spend quite some time coming up with solutions based on research. They do not provide access to their learning portal. Apart from this, not much red tape and smooth working conditions.

Academic courses relevant to the project: Objected Oriented Programming, Data Structures and Algorithms, Database Management Systems.

Name: SAUMYA HEMANTKUMAR BHATT (2018A3PS0303G)

Student write-up

Short summary of work done during PS-II: Had to build a ML algorithm to classify customers into buckets based on their characteristics and display them onto a web based dashboard using various visualization libraries.

Tool used (Development tools - H/w, S/w): Spring Boot, React, Elastic Search, Flask, Python, Java.

Objectives of the project: To build a web-based dashboard to manage how customers are clasified and how they would act in the future based on previous trends.

Major learning outcomes: Learnt how to structure code so that it is scalable.

Details of papers / patents: Didn't publish any papers/patents.

Brief description of working environment, expectations from the company: It was conducted in online mode. My mentor was usually chill and had meetings twice a month. They did however had high expectations so often had to put in some extra hours to match deadlines. But the project was interesting and challenging. The mentors were very helpful and supportive. Overall, is a decent PS2 station.

Academic courses relevant to the project: Object Oriented Programming, Machine Learning.

Name: AMIT KUMAR (2018A3PS0440P)

Student write-up

Short summary of work done during PS-II: Collection agency takes care of the defaults caused by a person by not paying EMI. So it comes as cases to the agency. The project was to find an algorithm for distribution of cases equally among the units and also to find an optimal design for allocation. The design changes required writing and algorithm testing it and then to do the same with the design. It followed by development of utility for data multiplication.

Tool used (Development tools - H/w, S/w): Apache Active MQ, Oracle, Eclipse IDE.

Objectives of the project: To redesign the allocation process logic used by company to achieve better efficiency scalability and performance.

Major learning outcomes: JMS, SQL.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mentors were very helpful always ready to help. We have to give progress reports to heads every second week. The company gave us remote access of the desktop.

Academic courses relevant to the project: OOPS, DSA.

Name: DHYEY ZALA (2018A3PS0574P)

Student write-up

Short summary of work done during PS-II: Developed a stand alone utilty that can predict the generation time of the report requested by the user. Created an interactive UI which helps the user in understanding the utility.This project is integrable at many places in the company's product and solves the problem user faces where they are waiting cluelessly for the report and getting impatient. The porject is based on a model which predicts the generation time of the report based on the past data and considering various other parameters such as transaction frequency and system load.

Tool used (Development tools - H/w, S/w): Spring Boot, Google Collab.

Objectives of the project: To predict the generation time of the report so that the user can know what time to wait and can be at ease.

Major learning outcomes: Spring Boot, JavaScript, Machine Learningd.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is great as the interns are given total ownership of the project and we can develop it as we want. The mentors and sub-mentors are really helpful and open to the ideas we present. There are fun activities done by the HR team once in a while. Company's higher ups are also supportive and the interns can easily approach them regarding any problems faced. There is a special team which helps you in any technical difficulties.

Academic courses relevant to the project: OOP, DSA.

Name: NAVTESH SINGH CHAUHAN (2018A3PS0581P)

Student write-up

Short summary of work done during PS-II: My project involved developing a IntelliJ based Plugin. The purpose of this plugin is to generate summary for various methods used by the user or programmer in his/her source code. The plugin implemented a Natural Language Processing Algorithm (NLP) algorithm. The algorithm works by first parsing the file and then using the collected metadata to generate summaries.

Tool used (Development tools - H/w, S/w): IntelliJ, Git, Maven/Gradle.

Objectives of the project: The purpose of this project was to generate summary for various methods used by the user or programmer in his/her source code.

Major learning outcomes: Plugin Development in IntelliJ, GIT, Maven/Gradle.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was quite satisfying. We had regular meetings wherein we discuss the current progress, any difficulties faced, etc. My manager was helpful and supportive as well.

Academic courses relevant to the project: Object oriented programming.

Name: RANDHIR SHARMA (2018AAPS0369G)

Student write-up

Short summary of work done during PS-II: We developed a tool for the company's website that analyses the log files from the server and on the basis of the analysis it finds the class in which there is an error, the line corresponding to the error and the programmer who made the revision that caused the said error.

Tool used (Development tools - H/w, S/w): Springboot, Advanced Java, Eclipse, Maven, MySQL, Postman.

Objectives of the project: To make a log analysis tool for the website.

Major learning outcomes: Core concepts of advanced java. Web app development, Springboot, MySQL.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mentors are very experienced and very supportive. They are always available for any type of assistance. There's a biweekly meeting where we present our work done in two weeks to the senior management of the company. And based on the presentation they provide us the feedback on how to move further.

Academic courses relevant to the project: OOPs, DSA.

Name: NIKHIL KUMAR SINGH (2018AAPS0497H)

Student write-up

Short summary of work done during PS-II: 1. Dev-Perf-Infra: I was assigned to create a infra stack which will detect bugs in a development cycle as early as possible, using this infra developer can test their application at their dev desk rather than relying on testing team.

2. Creating custom rules using Sonarqube- I was assigned to create some custom rules in sonarqube which is a code analysis tool, the rule were to detect Personal identifiable info, IP addresses in a code or a properties file and give a potential leakage message in sonarqube wherever detected.

Tool used (Development tools - H/w, S/w): Java 8, Java 11, Intellij, Maven, Jmeter, Nginx, Redis, JDT, Sonarqube.

Objectives of the project: Early Detection of bugs in a development cycle, Creating custom rules to detect Ip address using Sonarqube.

Major learning outcomes: Learnt various testing and code analysis tools like Jmeter Nginx Sonarqube. Communication skill developed.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is not too hectic, you have to give minimum of 7 hours a day, Saturday and Sundays are off, there is a fortnightly meeting scheduled with the stakeholders for your project updates. Good company to start your career.

Academic courses relevant to the project: OOPs, DSA.

Name: DIVYANSHU SINGH (2018AAPS0673G)

Student write-up

Short summary of work done during PS-II: The PS journey at Nucleus started with a training period of 2 weeks, where we were asked to develop hands on experience in a relatively newer environment known as Spring Boot. Initial few weeks were spent in developing small projects to get familiar to the environment. Later on I was provided with a problem statement which was the

main project to be worked on. In the starting, I was working on developing API's. There were regular sync-up meets with the mentors to provide feedback to the work. After developing the Backend Part, Frontend part was completed in relatively lesser time. The last part of the project required lot of research work to chose the best visualization technique which would have best served the Problem statement. In the end a final meeting was held in which I presented my 6 months work to the Senior Engineers of the company.

Tool used (Development tools - H/w, S/w): Spring Boot, Maven, Java, In-Memory Database, Python.

Objectives of the project: To analyze the behaviour of customer on the organization's website. To track the activity of the user. on the website and provide him a whole new personalized experience of the website. Also, security of website needs to be strengthened, it is required to track any fraudulent behaviour taking place on the website. Domain of this project was analyzing the behaviour and the outcome could be used in n different ways for the company.

Major learning outcomes: Learnt about a completely new working environment known as Spring Boot. Comes with it the knowledge of Apache Maven as well. Researched about various visualization techniques as well. Gathered hands on experience of developing industry ready project in Java Programming Language.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Entire PS was remote. The organization provided the Remote desktop Access to all the interns. I was then expected to work on their system only. Entire code was written in their system and in the end of the PS, the project was transferred to their server.

Academic courses relevant to the project: Data Structures and Algorithms, Object-Oriented Programming.

PS-II Station: Nutanix Technologies India Pvt. Ltd., Bengaluru

Faculty

Name: Chandra Shekar R K

Student

Name: MADHULIKA BALAKUMAR (2017B1A70527G)

Student write-up

Short summary of work done during PS-II: Integrating Non-Volatile memory express over Fabrics (NVMf) protocol with the Nutanix cluster component responsible for all data management and I/O operations. Different types of block devices, such as malloc and iSCSI devices are created in the CVM using the SPDK libraries for this protocol, to compare performance of I/O operations from the User VMs. In addition, a custom Nutanix Block Device was created using the SPDK architecture, which could perform I/O directly to underlying cluster component files.

Tool used (Development tools - H/w, S/w): C, C++, SPDK architecture.

Objectives of the project: Integration of NVMf into Stargate (I/O ops manager).

Major learning outcomes: Understood the intricacies of the software development lifecycle as well as working with a team to maintain a huge codebase.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was open and friendly. Questions were encouraged and team members were always available to help in case of any issues. Interns were given tasks that would contribute to upcoming releases.

Academic courses relevant to the project: Computer Networks, Operating Systems.

Name: RIYA DHAR (2017B1A70753G)

Student write-up

Short summary of work done during PS-II: I was part of the Billing team at Nutanix which is a web development focused team. I worked as a full stack developer and worked in various tasks such as development of various frontend components important to manage subscriptions, working with different existing microservices, as well as development of a testing framework for the backend.

Tool used (Development tools - H/w, S/w): JavaScript frameworks such as SailsJS and ReactJS and databases such as PostgreSQL.

Objectives of the project: Solve the different tasks and bug fixes that were allocated to me.

Major learning outcomes: Various software development concepts such as importance of testing, event loops in NodeJS, microservices, working with MVC architecture and effective use of version control and code review.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Everyone at my team was extremely helpful, friendly and patient. The company expects interns to take full responsibility of the tasks assigned to them, right from coding to fixing any bugs that might come up during QA testing.

Academic courses relevant to the project: Object Oriented Programming, Computer Networks.

Name: GALA HEET MAHENDRA (2017B2A30576P)

Student write-up

Short summary of work done during PS-II: A full stack development project of creating automated headless reports as a service. Preparing the UI for this reports having many different dynamic components. Preparing the server using node express and backend headless downloading using node js. Preparing the service which automates all the process using dicker and CI-CD pipelines. Completing the service with kubernetes networking pods. A full stack frontend, backend and deployment service project.

Tool used (Development tools - H/w, S/w): Puppeteer Libarary, Java script language, Docker, CI-CD gitlab pipelines, Gitlab, Kubernetes, Node js, Node express, React js, html, css.

Objectives of the project: Customization of reports as a service.

Major learning outcomes: How to debug already existing large codebase. As a SaaS product, think from the perspective of customer, what would they think of this particular enhancement. Team work and an effective communication. Working hard regularly and always be eager to learn new things never getting too comfortable in your space.

Details of papers / patents: None

Brief description of working environment, expectations from the company: A very good company in terms of life balance, no time restrictions, can work anytime you want, very flexible. Don't expect much from interns, makes you understand their expectations and limitations within each team. A worker friendly environment, very open culture. All the doubts entertained, they usually say this statement - "A question is never a silly question, to not to ask is a silly thing".

Academic courses relevant to the project: OOP, OS and a brief idea of networking and API calling.

Name: GALA HET MAHENDRA (2017B2A80574P)

Student write-up

Short summary of work done during PS-II: Worked on multiple small and one main project. One small project involved to investigate on dirtyrate APIs which helps the customer to make a decision whether the live migration will converge/not converge and also on the nature of VMs running on the host. And secondly worked on enabling multi-fd for systems having higher bandwidth capability by creating a socket for each of the mlti-fd threads. Secondly adding multi-NIC support to further increase network bandwidth and to separate live migration traffic from other UVM based network traffic and to replicate the code changes in the upstreaming qemu and libvirt, and also add support to scheduler side of AHV team.

Tool used (Development tools - H/w, S/w): Linux shell scripting, kernel programming, iperf, 2 node physical cluster, gerrit, Gitlab, Jira.

Objectives of the project: Enabling Multi-FD (multiple sockets) during Live Migration of Virtual Machines to increase the network bandwidth capacity and adding Mutli-NIC capability support in the qemu and libvirt of linux source code.

Major learning outcomes: Learnt more practically about Operating Systems, Virtualization (one step ahead of Operating systems), Live migration of VMs, kernel programming in C, python/Bash scripting.

Details of papers / patents: Enabling Multi-FD (multiple sockets) during Live Migration of Virtual Machines to increase the network bandwidth capacity and to enable Multi-NIC capability in the qemu, libvirt and scheduler side changes. Instead of all the multi-fd channels carrying pac.

Brief description of working environment, expectations from the company: The working environment is very cool. The manager, mentor and entire team is very flexible and chill. No time restrictions unless you meet the deadlines. Friday night online gaming sessions. Everyone is super super helpful on and off the project. Expectations in this team are a bit high, as it is one of the only teams which work so close to linux kernel. Very good command on academic courses on OS and CN. CompArc and basic linux shell is a plus.

Academic courses relevant to the project: Operating Systems, Computer Networks, Computer Architecture, Linux programming.

Name: ONKAR KISHOR MATHEKAR (2017B2AA0838G)

Student write-up

Short summary of work done during PS-II: I initially worked on distributed tracing and integrating Jaeger into one of their components. Jaeger is an open-source tracing tool developed by Google. By using OpenTracing instrumentation, Jaeger can be configures to produce Traces and Spans for Distributed Systems. I integrated Jaeger on the Server Side. Next, I worked on migrating one of the components of their Hypervisor from Python to Golang. This led an improved memory footprint and much better performance.

Tool used (Development tools - H/w, S/w): Golang, Python, DB, Jaeger, OpenTracing.

Objectives of the project: Observability and scalability of the service.

Major learning outcomes: Learnt to develop software while collaborating with the team following best practices. Importance of code reviews and feedback while maintaining a large codebase.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The people here are very helpful and quick to respond to any queries. They do expect you to learn fairly fast, but will provide support whenever needed. Not everything is focused on work and you can connect with people after work too. You will definitely learn a lot about stuff here.

Academic courses relevant to the project: OOP, DBMS, OS.

Name: VASHIST SLN (2017B3A70381H)

Student write-up

Short summary of work done during PS-II: Worked on 2 projects: Postgres as a Service, Writing tests for IDF.
With Postgres as a service, I worked on setting up and deploying the operator on my DevVM and also on the master. Did some migration from Stolon to Patroni and Post migration testing as well. Fairly exploratory field, spent a decent amount of time researching.
Testing automation is as the name says, I studied about the DB from the resources provided, got familiarised with the API and just started writing tests using the functions from the API for the IDF database. Used unit test framework and their own testing platform for running and adding to the codebase.

Tool used (Development tools - H/w, S/w): Postgres, Python, Docker, Kubernetes, Bash, Git, Github, Gerrit, Postgres-Operator, Dive.

Objectives of the project: Offering Postgres as a service, automating the bug repros for future proofing.

Major learning outcomes: Writing industry standard code, working with real time projects, coordinating with teams, communicating effectively, contributing to a huge codebase.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very friendly, very welcoming and very open. Not much hierarchy, pretty flat and people are approachable. Welcome and encourage questions. They expect high ability to solve problems on our own. Need to work out most things on your own, but don't spend too much time on an issue.

Academic courses relevant to the project: DBMS, OS, Computer Programming, Object Oriented Programming.

Name: PIYUSH PHATAK (2017B3A70425H)

Student write-up

Short summary of work done during PS-II: I was working on a database called ChakrDB developed by Nutanix. My work was to create an adapter which can make ChakrDB compatible with DynamoDB APIs. Since it was an exploratory and open-ended project, I was expected to develop a basic framework for it and to support atleast few basic DynamoDB APIs.

Tool used (Development tools - H/w, S/w): Linux, C++, DynamoDB, Git, Gerrit, MakeFiles, VSCode, Python, Sourcegraph.

Objectives of the project: To support DynamoDB APIs for in-house database.

Major learning outcomes: Advanced C++, Object Oriented Programming, System Design, Nutanix specific C++ libraries, DynamoDB, Concepts related to Databases, Understood importance of writing clean code, debugging and code reviewing.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work Environment is great at Nutanix, interns are expected and encouraged to learn as much as possible. Everyone very helpful and approachable here. Working hours are also very flexible. I was expected to take full ownership of implementation of my project.

Academic courses relevant to the project: OOPs, DBMS, Computer Networks, OS.

Name: PRANAY KHARIWAL (2017B3A70565P)

Student write-up

Short summary of work done during PS-II: I was part of objects team (product similar to aws s3 buckets)
Task 1: Automated testing of triton for over 1000+ test cases (community edition of objects) (python, git , gerrit, json).
Task 2: Helped add cache pruning functionality (LRU caching, c++, git, OOP).
Task 3: Tested dockers for product limitations (linux commads, dockers).

Tool used (Development tools - H/w, S/w): python, c++, git, dockers.

Objectives of the project: To automate testing and understand the infrastructure so as to enable additional functionalities.

Major learning outcomes: c++ , python, git, dockers.

Details of papers / patents: None

Brief description of working environment, expectations from the company: I enjoyed the work and had an exponential learning curve. Everyone is very humble and always ready to help.

Academic courses relevant to the project: C programming, operating system, computer networks.

Name: PRANAY KHARIWAL (2017B3A70565P)

Student write-up

Short summary of work done during PS-II: Worked on automating testing of a service (Python) thereafter worked on adding features like caching and multi-cluster to existing infrastructure (Using core c++ which included the use of threads etc).

Tool used (Development tools - H/w, S/w): Python, Dockers, C++, AWS S3, Git.

Objectives of the project: Automate testing and adding additional features to existing infrastructure.

Major learning outcomes: Python, Dockers, C++, AWS S3, Git, CLI.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Everyone is very helpful and humble. Experience has been great working here.

Academic courses relevant to the project: C programming, OS, OOP, Computer Networks.

Name: VITTHAL P YELLAMBALSE (2017B4A70454G)

Student write-up

Short summary of work done during PS-II: Worked as a developer for the Oracle Team of the ERA product. Work done:
(1) Addressing Bugs (2) Enhancing Existing Features (3) Feature Work
Bug Fixes: Resolved some regressions from previous releases.
Enhancing Existing Features: Allow users to configure database listener on user specified port instead of the default.
Feature Work: Allow users to share a Time Machine object that is associated with a database that is registered with a single user.

Tool used (Development tools - H/w, S/w): Ansible, Python, and Jinja2.

Objectives of the project: Contribute to the product and get an experience of working as a part of a team.

Major learning outcomes: This internship has provided me with a tremendous opportunity to hone both my technical and non-technical skills. I learnt about how to write production quality

code while becoming well-versed with various tools and services. Finally, it has taught me how to solve numerous challenging problems.

Details of papers / patents: Not applicable.

Brief description of working environment, expectations from the company: Expectations involve taking complete ownership of the tasks given in terms of bug fixes, feature enhancements, development of new features. Also, expected to participate in meetings and stand-ups.

Academic courses relevant to the project: Computer Programming, Computer Networks, OS and DBMS.

Name: PRATEEK D HIRANANDANI (2017B4A70578H)

Student write-up

Short summary of work done during PS-II: The team I was assigned to was working on a Disaster Recovery & Backup solution which aims to protect user data by replicating and storing snapshots. It was one of the major projects in development at the time. I was given the task of creating debugging pages for each of the distinct modules of the project. Debugging pages are useful as they display important information and stats related to the project. This helps monitoring of various API ops and finding bugs. The work included studying other projects' debugging pages and codebases to analyse different ways of implementation and collaborating with testing team to see which data would help monitoring our project. Based on the QA team's requirements, more and more stats and features were added to each module's debugging page.

Tool used (Development tools - H/w, S/w): Linux, C++, Protocol buffers, Makefiles, Python, Git, Gerrit, Sourcegraph, Jira.

Objectives of the project: Building debugging pages to display dynamic stats generated during the execution of the project.

Major learning outcomes: Better understanding of advanced C++ concepts, writing good quality infrastructure-level code, understanding significance of unit tests and code reviewing, integrating software like protobufs and Makefiles, working in a team environment.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: At Nutanix, interns are treated exactly like the full-time employees and are expected to take ownership of their own work. The learning curve is steep and you are given access to learning resources and design docs. I was given complete access to the pre-existing libraries and codebases related to my project. Every employee is very helpful and approachable in case one is stuck somewhere. Working hours are flexible too. It is a great place to learn and work.

Academic courses relevant to the project: OOPS, DBMS, Computer Networks, OS.

Name: HARSHAVARDHAN K (2017B4A70601G)

Student write-up

Short summary of work done during PS-II: Today large-scale deployments like Google Borg or Azure or Alibaba cloud have invested in collecting metrics to evaluate the performance of workload placement strategies within their data centres. This has been useful both as an optimization feedback for their algorithms, as well as helpful in evaluating the operational efficiency of their infrastructure. As a result, we can glean similar insights from our customers' data via pulse (pulse is a platform where the data is collected). From the organization's perspective, having a scorecard of our current performance helps in many ways, so the objective is to improve the observability as Data gives insights about untapped improvement opportunities . Eg, if a customer's workload follows a pattern or is dominated by workloads of a certain type, the scheduler should be able to dynamically optimise for it.(scheduler is the thing which places the virtual machines on the hosts). Once it is brought close to operational metrics of big cloud

offerings, this can become a great selling proposition. so as a part of this we worked on vm uptime by trying to incorporate new metrics.

Tool used (Development tools - H/w, S/w): Python

Objectives of the project: Improving the observability by incorporating new metrics.

Major learning outcomes: 1. Team work 2. Learnt about new tools and technologies 3. Improved communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very cool environment to work in. You are just expected to finish the given work and no start timings as such.

Academic courses relevant to the project: DBMS, Computer Networks.

Name: RITIK NAWAL (2017B4A70886G)

Student write-up

Short summary of work done during PS-II: I was a part of Core-Infra team at Nutanix.As a part of internship I worked on designing and developing a general framework for carrying out precheck tests for expansion of cluster. The framework was expected to provide the user a single point of execution for all the precheck tests(giving the user the option to pick and choose the tests to be run), be able to be flexible enough to support changes in future, track and monitor progress of execution and handle service crashes.

Tool used (Development tools - H/w, S/w): VSCode-Remote SSH, Python, Gerrit-Code review, Confluence-documentation, SourceGraph-Accessing Codebase, Git, JIRA, Jenkins-Build and company software for cluster deployment.

Objectives of the project: Design and develop a general framework for running precheck tests.

Major learning outcomes: Problem solving and analytical skills were improved.Learnt how to write clean and concise code for specific requirements.Helped in developing interpersonal skills as well.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work culture of the company is very good. Everyone in my team was very friendly and helpful. They were always available on slack for doubts. They provided constant support, motivation and guidance throughout my internship. As an intern I was treated like an employee since I was included in all the team sync up meetings and activities. More focus was laid on coming up with a design for the project, rather than just the implementation.

Academic courses relevant to the project: Data Structures and Algorithms (DSA), Operating Systems (OS),Object Oriented Programming (OOP).

Name: ABHEESHT SHARMA (2017B4A71014G)

Student write-up

Short summary of work done during PS-II: Project Title: Aggregating Counters for Access Control Lists (ACLs). An ACL is a set of rules that is used to filter network traffic based on certain match conditions (for example, source, destination, traffic type, etc.). These ACLs are represented as lower-level abstractions in the form of Logical Flows and OpenFlow Rules, where these counters (i.e., number of packets and bytes hitting the specified ACL(s)) are actually present. Counter information is very useful to the user for the purpose of telemetry collection, particularly for "drop" ACLs. The various steps include collecting counters for ACLs (involved interfacing with OVS and OVN), designing APIs for collecting counters, identifying bottlenecks in code and design a cache to speed up the computation, defining RPCs to expose counters to users and defining a

command in the CLI to display the counters. Every step had an extensive reviewing phase and a unit testing phase.

Tool used (Development tools - H/w, S/w): H/W: Acropolis Hypervisor (AHV).
S/W: Flow, Prism, Python, Git, Open Virtual Network, Open Virtual Switch, Swagger, Flask, VSCode, Vim.

Objectives of the project: The Open Virtual Network (OVN) provides a way to implement stateful firewall using Access Control Lists (ACLs). The motive of this project is to count the number of packets and number of bytes (counters) hitting these ACLs. Both accuracy of the computed values and the efficiency matter. After interfacing with the OVN and OVS to compute counters, define a cache to improve performance. Counters are useful for telemetry collection, especially for "drop" ACLs.

Major learning outcomes: - Learning to collaborate with individual collaborators to contribute and maintain code in huge codebases.
- Becoming familiar with state-of-the-art tech stack and reviewing processes.
- Learning about Virtual Networking (OVS, OVN, microsegmentation, etc.).
- Writing production-level code (modularity, optimisation, unit tests, readability, etc.).

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Right from the beginning, everyone in the Flow-networking team has been very welcoming. They are always prompt in responding and clearing doubts and are always ready to hop on a call and discuss difficulties. These traits are present not only in my team, but in Nutanix as a whole - the HR department, the Engineering Enablement team and so on. The working hours are flexible, the thing which matters is task completion. I look forward to continuing, next year, the great work we've managed to do in the past 4.5 months.

Academic courses relevant to the project: Computer Networks, Object Oriented Programming.

Name: GIRIDHAR BAJPAI (2017B4A71451H)

Student write-up

Short summary of work done during PS-II: The project provided to me in my internship was to build a UI usage analytics dashboard for particular entities provided by company products. The domain of the project was mainly front end development combined with data analytics. The end goal was to understand and analyze the usage patterns of different users of the product, that is how a given user uses different workflows provided by an entity. To achieve this various relevant events and actions triggered that were triggered on the user interface of the entity were recorded and sent into a back-end database. The data was then collected, cleaned, organized and was meaningfully visualized to understand usage patterns. The visualizations and analysis was then presented to domain experts and their suggestions were taken on improving or adding visualizations, methods to make more meaningful insights into the data getting generated and probably scaling the usage analytics to different entities and products across the company after consulting with concerned stakeholders.

Tool used (Development tools - H/w, S/w): ReactJS, Gerrit, GitHub, JIRA, Tableau.

Objectives of the project: To build a UI usage analytics dashboard.

Major learning outcomes: Apart from getting exposure to different softwares, programming languages and tools used in front end development and analytics, the other thing which I feel was an important learning outcome was writing good quality code, be it in terms of simplicity, readability, cleanliness or maintainability. Besides that, the internship experience also helped in developing interpersonal and social skills in a professional work environment.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment at Nutanix is very conducive for technical as well as personal learning and growth. The gradual integration of new hires into the company, giving them time to get accustomed to the required technologies helps in a smooth transition. The employees are always reachable and keen to help even for the smallest of issues or problems. The company lays emphasis on learning

as much as one can so that one can start delivering goals at a brisk pace, meanwhile ensuring a smooth and increasing learning curve.

Academic courses relevant to the project: OOP, DBMS, DSA.

Name: AKASH SINGH CHAUHAN (2017B4AA1484H)

Student write-up

Short summary of work done during PS-II: During my internship, I was part of the CALM, Cloud Management Lifecycle Management team. My project was to migrate a Calm call back server Iris from python to golang in order for a better performance, less memory footprint, better observability and better debugging. My project also included comparison between data from existing python server and from the golang server in terms of speed and performance.

Tool used (Development tools - H/w, S/w): Golang, Go-kit, OpenTracing (New Relic), Python.

Objectives of the project: The main objective of the project was to see an improvement in the performance, speed of the server when it hits the Iris endpoints.

Major learning outcomes: Learning outcomes included service design, testing and benchmarking code base, Tech skills like Golang, Go-kit etc, communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Although working remotely, the working environment was very healthy, very positive. Even though I was an intern, I was actually given a project that would directly have an impact on the Calm-UI, my manager, mentor were very helpful and supportive throughout the course of the internship.

Academic courses relevant to the project: DSA, OS, Computer Architecture.

Name: DISHIKA RASTOGI (2017B4AA1678H)

Student write-up

Short summary of work done during PS-II: Dynamic registration of APIs: The project consisted mainly of migration of v2/v3 APIs to newer version of APIs (V4) which are more consistent and efficient and also support new functionalities such as filtering, sorting and concurrency control. The work was to complete this migration for one of the endpoints and it's http requests in IAM services. Apart from this major project, I also worked on solving JIRA tickets (security tickets/bug fixes) in which a particular security threat in the IAM services needed to be addressed, debugged and tested.

Tool used (Development tools - H/w, S/w): Git, Golang, PostgreSQL, Postman.

Objectives of the project: The objective of the project was to migrate the already existing stack of APIs to the newer versions to reduce the bottleneck, removing gateways dependencies, adding new features for debugging, auditing, concurrency and cache control.

Major learning outcomes: Through this internship experience I got the opportunity to learn a lot of technological tools and languages like GoLang, PostgreSQL, Postman. Initially, I had to go through a lot docs and KT sessions to get insights about the IAM team and their services: Authentication and Authorization. I had to learn the basic terminology used in the services like OAuth, Saml Authentication, OIDC, Okta, Ldap, Active Directory etc. I also got to learn how to contribute in a huge codebase by writing clean code, and debugging unit test-cases. Apart from that, I also worked on JIRA tickets which helped me in having a better understanding of the codebase and resolve bugs. This intership also helped me in improving my communication and collaborating skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment in the company is quite chill and nice. My mentor, manager and other team members

have been very supportive and helpful during the whole internship. We had fun meetings, tech talks, Bootcamp sessions. I was a part of the weekly sync up sessions of the team right from the very start and were more focused on learning first rather than directly jumping into the project work.

Academic courses relevant to the project: Computer Programming, DSA, Operating Systems.

Name: DHEER MANISH JAIN (2017B5A70573G)

Student write-up

Short summary of work done during PS-II: I have interned with the support portal team of SAAS-Engineering division.The work involves full stack web development (Javascript, ReactJS, SailsJS, MongoDB, HTML5, CSS3). I was assigned JIRA tickets in every sprint cycle of two weeks. My work over the entire period of internship broadly covers UI implementation, UI enhancements and bug fixes respectively. I worked on over 30 tickets out of which 27 are currently in production and 3 are in testing phase. I have worked majorly with two codebases- One for the support portal (Which has 50,000+ end users) and another for the internal release management tool.

Tool used (Development tools - H/w, S/w): Software tools and technologies: Javascript, ReactJS, MongoDB, Git, HTML5, CSS3, SailsJS, Robo3T, Redis, VSCode.

Objectives of the project: Some of my most critical projects were based on: 1) Implementation of UI for displaying licensing and support contracts for specific clusters 2) Implementation of NGT Compatibility Matrix 3) Launching of case create popups for cluster list and cluster details page 4) Allow OEM/IBM/LEN/FUJITSU partners to create cases in portal 5) Implementation of delete bits functionality during release posting.

Major learning outcomes: 1) Javascript language 2) ReactJS framework 3) GIT version control 4) Agile Practices 5) MongoDB queries.

Details of papers / patents: No Papers/Patents published.

Brief description of working environment, expectations from the company: The working environment is really good here. There is a lot of scope for learning. The team members are very supportive and accessible.A buddy will be assigned who will help the intern throughout the period of internship for all their queries. There are daily standup meetings where the team members tell the status of their ongoing tasks to the manager. Whenever an intern is stuck in a specific area or needs some knowledge about some service, the intern can always schedule calls with any team member depending on their availability and the team member will help out the intern. With every task, the intern will get to learn about new areas which they havent explored yet.

Academic courses relevant to the project: Computer Programming (CP), Object Oriented Programming (OOPs), Database Management Systems (DBMS), Data Structures And Algorithms (DSA).

Name: VAIBHAV CHAUDHARI (2017B5A70834G)

Student write-up

Short summary of work done during PS-II: I've created a Nutest (automation framework) to automate the Uhura performance analysis. It automatically does all the steps and get the useful data and uploads it to ElasticSearch Index as documents. The documents are being used to display the Graphs on Grafana Dashboar which I created, to get a better understanding of the regression / improvement in the current versionand earlier versions of Uhura. I also automated the Nutest execution Jita so now we don't even need to run the Nutest command to do all this but only need to trigger the Nutest from Jita.

Tool used (Development tools - H/w, S/w): GoLang, Python, ESXi Clusters, Nutest, ElasticSearch, Postman, Grafana, Jita, Jira, Uhura Services, Gerrit, VSCode, CentOs.

Objectives of the project: Automate the process of Uhura performance ananlysis for regression and improvement testing.

Major learning outcomes: Leant how regression and improvement tests can be done to see whether there is enhancement or deterioration in the Uhura RPC services. Also learnt how I can automate the whole process to a single click automation. Also learnt how code is maintained and kept in a big organisation.

Details of papers / patents: Prepared Documentatio for my work for Nutanix use and also prepared presentation for the AHV team.

Brief description of working environment, expectations from the company: The working environment is pretty chill. The people are very approachable and the work-life balance is the best I've seen so far. The people are very helpful and push you to improve yourself but at your own pace so it does not feel like a burden. The comapnies expectations are you should complete the project as much as you can and have a good learning curve in order to upskill yourself. The best company so far I've worked with.

Academic courses relevant to the project: OOP, DSA, DBMS.

Name: MANTRI RAUNAK RAMESH (2017B5A71340H)

Student write-up

Short summary of work done during PS-II: The first project involved injecting dynamic configuration changes into a distributed environment and then communicating these change requests between different internal Kubernetes pods and services. The second project involved creating Machine learning models for anomaly detection and proactive alerting. Apart from these projects, we created a slack bot for the team as part of the fun sprint.

Tool used (Development tools - H/w, S/w): Kubernetes, Amazon Web services(Lambda, Kinesis, Sagemaker, EKS), Golang, Machine Learning.

Objectives of the project: The project's objective was to transform the current infrastructure, which was rule-based, to a Machine learning-based approach that would help in anomaly detection and proactive alerting.

Major learning outcomes: I learnt several new technologies and have hands-on experience during the internship. These include Big data technologies like Apache Spark (particularly Spark ML Lib), AWS services, and Machine Learning applications in the industry. Significant learning outcomes also included working with Kubernetes SDKs and networking APIs, and Docker.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is healthy and interactive, with great learning opportunities. All the team members are very reachable. Your work generally goes into production, which gives you an incentive to work up to the mark. One is expected to be punctual enough for meetings and seek help instead of getting stuck on some bug for a long time.

Academic courses relevant to the project: Computer Networks, Object Oriented Programming.

Name: ABHISHEK CHINMAYA PATWARDHAN (2017B5AA1033G)

Student write-up

Short summary of work done during PS-II: Getting used to the Nutanix code base and refactoring a component as a standalone application so that it can be consumed by other containers.

Tool used (Development tools - H/w, S/w): JavaScript, React framework, Webpack, GitHub.

Objectives of the project: Refactoring a major component.

Major learning outcomes: Front end development, contributing in code base, team work.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is nice, senior developers and colleagues are very helpful. The projects given are major and the expectation is to learn quickly and deliver.

Academic courses relevant to the project: Computer programming, OOP.

Name: PRATEEK GOYAL (2018A7PS0181G)

Student write-up

Short summary of work done during PS-II: Load balancing and implementing stream based grpc's.

Tool used (Development tools - H/w, S/w): Python, golang, grpc.

Objectives of the project: To improve scalability.

Major learning outcomes: Technical and soft skills improved.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Nice and good working environment.

Academic courses relevant to the project: Object oriented programming and computer networks.

Name: HIMANSHU TIWARI (2018A7PS0289P)

Student write-up

Short summary of work done during PS-II: Worked on dynamic registration: - Migration of V2/V3 Apis to newer version of Apis (V4 Apis) to support newer fields and other functionalities such as filtering, sorting, concurrency control etc for the client endpoint requests in AuthZ services. Apart from this major work, I have also worked on solving Jira tickets (security tickets) in which a particular security threat in the IAM services (AuthN and AuthZ) need to be addressed , debugged and tested.

Tool used (Development tools - H/w, S/w): Git, GoLang, PostreSQL, Postman, Jira,Yaml, CLI.

Objectives of the project: The objective of the project is to make newer version of Apis in order to reduce Api response time, removing gateways dependencies, adding new features for debugging, auditing, concurrency and cache control.

Major learning outcomes: I got the opportunity to learn a lot of technological tools like GoLang, PostgreSQL, Postman, Yaml ,maven and others. I had gone through a lot of docs and KT videos to get insights about Authentication and Authorization terms such as OAuth, Saml Authentication, OIDC, Okta, Ldap, Active Directory etc. I also learnt how to write clean code, writing and debugging unit test-cases. Apart from I also worked on Jira tickets which helped me to learn debugging in huge codebase. It also helped me in improving my soft skills and communication part.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment in the company is quite chill and nice. My mentor, manager and other team members are very supportive and helpful during the whole internship. We had fun meetings, tech talks, Bootcamp sessions. I was invited in every sync up of the team from the start and were more focused on learning first rather than directly jumping onto the project work.

Academic courses relevant to the project: Computer Programming, DSA, Database Systems.

Name: INDRAJITT VALSARAJ (2018A7PS1019G)

Student write-up

Short summary of work done during PS-II: I was assigned to work as a part of the networking team. Unlike other interns, I was assigned to work along with the team and not on a single project. A major part of my work involved developing anew version of the already existing API. This included the implementation of several new features such as Idempotency of CRUD operations and concurrency control for the same. We also implemented filtering, sorting and pagination using the APIs with the help of the OData library. The work mainly involved writing code in Java and python. I also got exposure to the entire development lifecycle as a part of this experience. The internship provided a great opportunity to familiarize ourselves with the corporate world and improve our interpersonal skills. Overall, it was a very enriching and insightful experience.

Tool used (Development tools - H/w, S/w): Java, Python, Postman.

Objectives of the project: Multiple work items to help improve uponold version of API.

Major learning outcomes: - Better understanding of networking concepts
- Better understanding of Java Frameworks
- Using Postman and collections.
- Implementation of idempotency and concurrency control for async tasks

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was very friendly and encouraged people to ask doubts. My manager was very accommodative and considerate of my working hours even though she belonged to a different time zone.

Academic courses relevant to the project: OOP, Computer Networks.

Name: RISHABH MISHRA (2018AAPS0322G)

Student write-up

Short summary of work done during PS-II: Worked on a web application that my team maintains. Most of the work revolved around full stack web development. I also did some research work on Confluent Kafka.

Tool used (Development tools - H/w, S/w): React, JavaScript, GraphQL, Java, PostgreSQL.

Objectives of the project: Meeting the requirements of the Jira issues assigned to me.

Major learning outcomes: Got to learn the best Industry practices for writing codes, debugging and deployment. Also got to see some DevOps concepts in action like the CI/CD pipelines focused on software delivery.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was remote so there was not any face to face interaction except some social meetups on Zoom. Although working remotely, there wasn't any issue with the delivery of the work in a timely manner.

Academic courses relevant to the project: OOPS, DBMS, System Design.

PS-II Station: Nvidia Graphics - Hardware, Bengaluru

Faculty

Name: Shree Prasad Maruthi

Brief write-up on PS-II station: Students should have strong programming skills in languages such as C/C++, and scripting languages. Knowledge of VLSI, Computer architecture and related subjects is an added advantage.

Mentors Name: Mr. Arjun Raghunath

Mentors Comments: Lakshay has helped build a tool that will provide feedback on timing targets.. IE, whether the targets set today are sufficient for the planned product.

This involves getting relevant power/perf/clock/voltage information from current estimates, transforming the product frequencies to timing frequencies by removing noise/margins and comparing against current timing data.

Highlights of Major Achievements: Lakshay was able to develop the tool to the expected requirement, and verify its accuracy via testing. Lakshay was able to learn and implement python scripts for real-world applications.

Lakshay was also able to internalize the underlying concepts related to Power / Performance / timing / Noise, etc. involved in the working of this tool.

Outstanding Student Characteristics: Lakshay is able to communicate well and fits well in Nvidia culture. He has also picked up good coding fundamentals especially in python environment. His willingness to work part-time when not in an ideal environment (due to health issues for himself and family) is also appreciated.

What do they look for in interns: Smartness/quick thinking : Intern must be able to work smartly/efficiently and understand the scope of the work, and get their doubts/questions cleared without hesitation.

Initiative: Interns who can think outside the box, who deliver work that exceeds the problem statement, and who ask questions/learn on their own initiative without being directed constantly.

Culture fit: Intern should be a good fit with the Nvidia culture and be able to communicate effectively.

Mentors Name: Mr. Anonya Chatterjee

Mentors Comments: Overall quality of work is above expectations – enthusiastic to accomplish the provided tasks with good quality (Python coding skills, presentation skills) within stipulated time. Has a good potential to understand the problem statement thoroughly and provide optimum solution with his own research, with minimal dependence on other team members.

Highlights of achievements: The assignment that he accomplished was very helpful in taking an existing Methodology flow infrastructure towards production use. The Python scripting involved in his assignment was not straightforward and involved to first have pre-requisite knowledge of technology-specific design

manufacturing rules. Was able to learn on this topic and apply the learnings in to an algorithm to achieve the specified requirements as per problem statement.

Scope of Improvement: Needs more exposure in the domain of Physical Design (Implementation), so that he can correlate the problem statements provided better to the actual physical impact during chip implementation.

Mentors Name: Mr. Abin Reginold

Mentors Comments: Lahari was involved in post-silicon characterization of NVIDIAs next-gen Tegra SOC, as part of which she carried out tasks validating the silicon correctness and estimates. She helped in getting the automation required for power measurement of PLLs/FLLs up for this project. Also, as part of this activity she interacted with lab technicians and worked with fellow engineers in executing the power measurement task and correlating and analyzing the data. She carried out jitter measurement activities for the SOC clock modules and helped collate and analyze the data collected on the same. As part of this she worked on high end oscilloscopes and thermal control equipment.

Student Characteristics: Lahari has been able to pick up on new topics and has shown an ability to dig up the required source materials to enhance on the same. She has shown commitment in completing assigned tasks within the stipulated time. And an inquisitive nature whenever she came across something new or unexplained in her line of work. Clear and precise communication skills.

Intern expectations: Have a clear understanding on basic concepts of electronics and have experience in at least one programming language. Though intern expectations vary depending upon projects and teams, for this specific case we wanted interns to be aware of lab environment and equipment as much as possible given the remote learning/working conditions that are prevailing now.

Student

Name: S SAICHARAN (2017B1A31613H)

Student Write-up

Short summary of work done during PS-II: My work was in functional coverage coding in system verilog language for the controller the team was working on. I was given a testplan partially done for host by the team and had to implement the coverage model after coding the scenarios, rows given for both host and device .Once the coding was done had to sample the covergroups, coverpoints coded and integrate it in package form. After the model was implemented in packages for speeds next work was the analysis of the uncovered bins for the scenarios implemented.This involved adding any missing stimulus,modifying,checking for sampling issues looking at the logs

or checking if the test info is passed to coverage model. Synopys tools were used to view the coverage numbers,percentage of covered/uncovered etc.Thus i implemented the functional coverage model and took it to closure (100% covered) for particular portion of the controller thus verifying the constrained random verification process used in the testbench .Also side by side helped the team in debug of failing tests and running of certain specific regressions that were necessary .

Tool used (Development tools - H/w, S/w): HW tools - Synopys tools, Nvidia specific internal tools.
Languages used - System verilog, functional coverage, united verification methodology (UVM) and some oops concepts.

Objectives of the project: Objective of the project was implementation of functional coverage to verify the constrained random verification used in testbench for generation of tests.

Major learning outcomes: Learnt a lot especially how system verilog is used as a hardware verification language. Also learnt about the flow of verification process for a product.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was work from home for me but the working environment was fantastic. Team members were really helpful in guiding me whenever I had a doubt through teams calls. Regular interactions with mentors, monthly review with manager kept me updated about my progress. Regular weekly team meetings also kept me updated about the overall project flow and timelines expected.

Academic courses relevant to the project: Computer Architecture, Digital Design and Microprocessors and Interfacing.

Name: TADA LAHARI (2017B2A80424G)

Student write-up

Short summary of work done during PS-II: Post silicon validation and automation of the oscillometers.

Tool used (Development tools - H/w, S/w): Notepad++, WinSCP, VNC Viewer, Perforce, Windows Powershell, Python and many other softwares internal to Nvidia.

Objectives of the project: Understanding the clocking architecture of discrete GPUs, automating electrical validation of clock modules, learning to use measurement equipment such as high-end oscilloscopes, power measurement units, DAQs and techniques required for electrical validation.

Major learning outcomes: Learnt usage of oscillometers for post silicon validation work and also automation of the same.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment at Nvidia is highly congenial for the development of necessary skills and techniques for individuals aspiring to be hardware engineers, everyone is quite supportive and friendly. Company does not expect you to excel at everything but does expect sincere efforts from the prospective candidate, in fact, communication is the key and the same has been conveyed to all the interns from the inception.

Academic courses relevant to the project: Electronic Devices, Microelectronic Circuits.

Name: ANMOL KALANTRI (2017B2AA1494H)

Student write-up

Short summary of work done during PS-II: I was a part of the Physical Design Team (PnR team) at NVIDIA. Primarily, our team is responsible for converting the Verilog-format netlists to the actual design layout of the chip. Due to the complexities involved, Physical design procedure at NVIDIA is usually split into multiple key steps, involving Chip floorplanning, Routing, Timing Closure and Tapeout. I worked with Place & Route (PnR) team to develop, enable and maintain PnR flows on different GPU blocks using EDA tools. The primary goal was to analyze the logic grouping in the chip and compare overall QoR (Quality of Results) metrics for the flow. In addition to it, I also worked on a project to develop Python-based parser scripts for extraction of PnR flow-related constraints. This information, extracted from the library files of advanced process nodes (5 nm and 7 nm), was crucial in chip planning and routing of critical signals in the chip.

Tool used (Development tools - H/w, S/w): Python scripting, Perforce, Tcl programming, NVIDIA proprietary tools.

Objectives of the project: The tasks of placement and signal routing are some of the key tasks in chip design. Hence, the prime objective of the project was to determine crucial metrics and flow constraints, in order to optimize routing of critical signals (such as clock signals) to enhance overall performance of the chip.

Major learning outcomes: Developed parser scripts to obtain critical PnR flow-related information and debugging errors in existing reporting tools were some of the key learning outcomes from the project.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: The working environment of NVIDIA is unparalleled and provides tremendous learning opportunities. All members of the team are approachable and always willing to help. The mentors and managers are quite encouraging and acknowledge the efforts we put in during the internship. Fairly good amount of time is provided for ramp-up and understanding the details of the project. Effective communication with mentors and team members helps in managing the bandwidth and successful completion of project.

Academic courses relevant to the project: Strong understanding of Analog & Digital VLSI Design, Digital Design concepts.

Name: JEET YADAV (2017B5A30909P)

Student write-up

Short summary of work done during PS-II: Worked on formal verification of a subunit of Nvidia's ongoing chip design. Was highly involved in using Jasper gold and system verilog to verify and test RTL models.

Tool used (Development tools - H/w, S/w): Jasper Gold, System Verilog, Linux.

Objectives of the project: Formal verification.

Major learning outcomes: System verilog, digital electronics, formal verification.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great culture and working environment.

Academic courses relevant to the project: Digital Design, Computer Architecture.

Name: LAKSHAY KATYAL (2018A3PS0274G)

Student write-up

Short summary of work done during PS-II: Worked on making an internal tool for automation of the process of analysing timing targets to be used for Static Time Analysis for given power /

performance and functional constraints. The dataset to be handled was very large and manual analysis led to delays in feedback and chances of errors were high. Automating the process will increase the efficiency and overall chip design time will reduce.

Tool used (Development tools - H/w, S/w): Python, MS-Excel.

Objectives of the project: To automate the process of analysing power / performance constarined timing targets.

Major learning outcomes: Voltage, frequency and power concepts revisited. Process of STA refreshed and Python programming with Excel based libraries enhanced.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is flexible, encouraging and balanced.

Academic courses relevant to the project: ED, DD.

Name: GUPTA ISHITA AVANISH KUMAR (2018AAPS0328H)

Student write-up

Short summary of work done during PS-II: I was assigned to USB Team to help on an existing on going project. I was given the role of helping with verification and coverage closure. All my tasks can be categorized under 2 main branches - Development of Coverage Model followed by Analysis of Coverage. I was provided with an extracted sheet of coverage requirements and based on it i had to code many cover points and crosses. I identified missing inputs and initiated discussions for it. I also helped in encapsulating of cover groups into package, modifying of binds, adding many exclusions, looking for false coverage, assigning of variables, in depth analysis of coverage code to help close uncovered bins, etc as part of Analysis. I was assigned to help in debugging of few buckets and documentation updating and helped with any other tasks that were given to me.

Tool used (Development tools - H/w, S/w): Git commands, Gvim commands, Verdi for coverage and wave analysis, System Verilog, Debugging tools, Doxygen, other nvidia resources.

Objectives of the project: Development of Coverage Model and Analysis of Coverage.

Major learning outcomes: Application of System Verilog, Learnt about USB 3.2 specification, Functional coverage, Development of coverage model, Analysis of coverage.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was very engaging and nice. Despite being WFH we were able to contribute and learn a lot of new skills. Our mentors were amazing and guided us throughout. All the team members were very helpful and friendly. They encouraged us to ask as many questions as we want. There were weekly and daily meetings were we could discuss our progress, next steps and any doubts we had. We had monthly presentations to showcase our work over the month.

Academic courses relevant to the project: Digital Design, Embedded systems, Oop concepts, Microcontrollers.

Name: TEJAS GOKHALE (2018AAPS0343G)

Student write-up

Short summary of work done during PS-II: The work involved analysis of reports to check for errors such as setup violations, DRC errors. We had to give feedback to the team about the causes and fixes to the errors. Automation of tasks was encouraged wherever possible.

Tool used (Development tools - H/w, S/w): ICC2, Innovus, NVIDIA Internal tool, Python, Tcl.

Objectives of the project: To assist with the analysis and reporting of tool dumped reports.

Major learning outcomes: An insight into the flow of physical design development in NVIDIA. The importance and usage of EDA tools in the design process.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The internship was fully work from home. The company ensured a smooth ramp-up process and provided the necessary training required for the work. The mentor and manager were very helpful and patient in clarifying doubts. One could also easily ask a teammate for help. The company expects you to take initiative to solve tasks.

Academic courses relevant to the project: ADVD, Digital Design.

Name: GIRUGU BHARGAVA PHANI CHAND (2018AAPS0441H)

Student write-up

Short summary of work done during PS-II: POR (plan of record) if a chip is the document which contains the necessary information which will be used to characterize the chip. POR publish flow helps in producing that document and help in uploading it to the right places. My work is to help increase the efficiency and add new feature to the scripts of POR publish tool.

Tool used (Development tools - H/w, S/w): Perl.

Objectives of the project: To increase the efficiency of POR Publish tool.

Major learning outcomes: Communication skills, Problem solving skills, Power measurements.

Details of papers / patents: No patents or papers.

Brief description of working environment, expectations from the company: Work culture in NVIDIA is so good and refreshing. Every colleague of mine helped me in any doubts I have. NVIDIA has the best HR department. they organized some fun activities in middle of internship which contains some take away to the work place too.

Academic courses relevant to the project: ADVD.

PS-II Station: OfBusiness, Gurugram

Faculty

Name: Sugata Ghosal

Student

Name: MOHIT ASSUDANI (2018A3PS0284H)

Student write-up

Short summary of work done during PS-II: My team was related to company's application named "Bid-assist". I was initially assigned crawling multiple domains which were then published on website. Apart from this we undertook multiple tasks which were related to PDF parsing, data to be given in CSV, g-sheets and creating REST API's using spring boot.

Tool used (Development tools - H/w, S/w): Java-8, Maven Environment, Redis, Amazon-S3, Spring boot and J-soup library.

Objectives of the project: Crawling using Jsoup / Java8.

Major learning outcomes: Learnt a lot about Redis and Unix commands, Java programming and hold on java collections.

Details of papers / patents: Null

Brief description of working environment, expectations from the company: The working environment was good as it offered environment to know what the complete team is up to in bi-weekly meets.The company expectations includes timely manner completion of given tasks and could have been better if it would not have been work from home.

Academic courses relevant to the project: Object Oriented Programming.

Name: JHA SHIVANK SUDHIR (2018AAPS0298G)

Student write-up

Short summary of work done during PS-II: OFB Tech (OfBusiness) is a tech-enabled platform that facilitates raw material procurement and credit for SMEs with focus in the manufacturing and infrastructure sectors. I was a part of the BidAssist platform which is a global tender aggregation platform. Mainly worked on their proprietary crawling engine. Crawled data about 10000+ tenders from 20+ tender listing portals.

Tool used (Development tools - H/w, S/w): Intellij, Java, Spring Boot, Redis, Postman, Git, Selenium.

Objectives of the project: Crawl tender data from tender listing portals.

Major learning outcomes: Java, spring boot, working on a live project, team work.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is great. I was given enough time to learn new things. Great team to work in. The

seniors were extremely helpful. I was working on a live project so the changes made by me had direct customer impact.

Academic courses relevant to the project: OOP, DSA.

PS-II Station: PayPal - Analytics, Chennai

Faculty

Name: Akshaya G

Student

Name: RAGHAV KAPOOR (2017B2A80342G)

Student write-up

Short summary of work done during PS-II: As part of the Business Analyst Group , my role as a risk analyst at PayPal was primarily to monitor and forecast the transaction losses that PayPal faces and report these losses to the finance team for using the data to make effective business strategies for the future. The key performance indicators include loss forecasting accuracy, quality of reporting dashboards and metrics, support of overall loss target and granular segregation of loss forecasting to identify key segments to focus and build effective business strategies.

Tool used (Development tools - H/w, S/w): Sql, Teradata, Python- Numpy and Pandas, Advanced Excel, Tableau, Presentation Skills, Communication Skills, Quick Learner, Team Player.

Objectives of the project: The primary objective of this project involves identifying the risks and potential losses that the organization faces, or may face, and then make use of a data driven approach to analyse the potential frequency and severity of these losses and identify trends and

similarities for forward forecasting and scaling of losses, which will enable the Risk Management and Finance team at PayPal to identify high risk segments and devise appropriate strategies accordingly.

Major learning outcomes: As part of my PS- II journey, I obtained a great opportunity to work at one of the world's leading Financial Technology company PayPal, operating an online payments system in the majority of countries that support online money transfers. I was able to gain knowledge and learn about how a global firm in the payment's ecosystem operates and get hands-on experience on working with data analysis and data science tools currently used by the world's leading firms. The experience not just involved exposure in the technical and business side of things, but also gave me an insight into the cultural aspect of working at a global company and how to work and collaborate in a team with brilliant minds and create a meaningful impact.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: PayPal is a purpose driven company and has a clear vision to keep growing its brand in the payments industry and continually help people all over the world. The 4 pillars that are the foundation on which the company conducts its business are Collaboration, Inclusion, Wellness and Innovation. PayPal follows a One team culture that resonated well with its main goal. Since for me the internship was WFH so I can comment that even in online mode the interaction with the team was regular and they provide ample opportunities to showcase your talent. Expect long working hours and an overall good working culture. Be prepared to multitask and manage the work along with the numerous learning workshops that PayPal conducts.

Academic courses relevant to the project: Probability & Statistics, Mathematics, Computer Programming, Principle of Management.

Name: SURAJ S M (2017B2AA0592G)

Student write-up

Short summary of work done during PS-II: 1.The first project that I was assigned was to identify Alternative Data to judge the credit worthiness of the customer. This involved a thorough Market research of competitors of PayPal in the Buy Now Pay Later segment.
2.The second project, was a research oriented project in AutoML. The main objective was to explore best in class AutoML frameworks available in the market and evaluate if they can produce better models than the currently manual built ones.
3.There was also work related to simulations of underwriting models for new to paypal customers. This involved evaluating scores from the current model on different countries and population. Extensive feature engineering was done in these simulations.

Tool used (Development tools - H/w, S/w): Teradata, Hive, Python, Microsoft Excel.

Objectives of the project: To find & evaluate alternative data that can better judge the credit worthuiness of a customer & to explore AutoML frameworks to automate certain business processes in the team.

Major learning outcomes: It was a huge learning experience in terms of credit business and especially in the trending Buy Now Pay Later market. I learnt a lot about data engineering - SQL, Hive, Teradata tools, big data and Gradient boosted Tree Frameworks.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a WFH situation due to the pandemic. The work culture is really good. All the team members are very helpful, encouraging & knowledgeable. You learn to take complete ownership of the work that you are assigned.

Academic courses relevant to the project: CP, OOPS, Probability & Statistics.

Name: ANIRUDH LAKKARAJU (2017B4AA1376H)

Student write-up

Short summary of work done during PS-II: Responsible for designing the end to end automation system for data analytics of PayPal's Co-Marketing Division. Using Python and SQL in conjunction, I conducted statistical tests to measure the impact of PayPal's global marketing campaigns in improving performance metrics.

Tool used (Development tools - H/w, S/w): Teradata, GCP, Python, Excel, Jupyter Notebooks.

Objectives of the project: Automate PayPal's owned channel co-Marketing analytics.

Major learning outcomes: My work gave me good understanding of how technical problems are tackled in an industry setting. The various software tools I used helped me better my skills in programming.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I really enjoyed working at PayPal. My team members were very welcoming and supportive. There was no barrier due to hierarchy and I never felt uncomfortable in reaching out to someone new. Everyone was very understanding and to make WFH easier, the company had regular fun events and activities that anyone could be a part of.

Academic courses relevant to the project: Data Structures and Algorithms.

Name: PRAVAR KHEMARIYA (2018A3PS0360H)

Student write-up

Short summary of work done during PS-II: Was required to work on automation of loss forecast model for risk loss monitoring. Analytical study of how loss arrival curves behave and the metrics

organization uses to assess the risks was required before beginning the project. Knowledge of various ML algorithms like decision tree, knn, etc. was required to do loss predictions via regression analysis. Business knowledge and presentation skills also played a key role in conveying your ideas and approach to the team.

Tool used (Development tools - H/w, S/w): Python, SQL, Excel, PowerPoint.

Objectives of the project: To exploit various ML algorithms to automate the loss forecasting model which done manually till date.

Major learning outcomes: Team work and coordination, presentation skills, handling deadlines and in depth knowledge of the project.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company offers wonderful projects which can help interns grow and have a deep understanding of how corporate sector works.The mentors and team members are very supportive and are easily approachable. There are also various interactive sessions organized by the HR team which helps in overall personality development.

Academic courses relevant to the project: DSA, OOPs.

Name: AKSHAT PALOD (2018A3PS0424G)

Student write-up

Short summary of work done during PS-II: To Analyze the real time data and plot the cumulative gross loss curve for each month for a given duration of time. And to deal with real time data of different leap risk categories and their respective metrics data to check for anomaly in the

transaction for latest months arrival day and send a detailed report of the anomaly via email to the user. Further using this technique to check for anomaly in different loss categories.

Tool used (Development tools - H/w, S/w): Teradata SQL, Python, Excel

Objectives of the project: To forecast the loss for the coming months so that PayPal has an estimate amount of how much loss it must undergo and how much will it be needing for the settlements.

Major learning outcomes: Usage of SQL, Python features for real time data analysis.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It was a great experience working in PayPal. Though it was work from home it look liked like we were working from an office due to various seminars and workshops help by the company.

Academic courses relevant to the project: DSA, CP.

Name: VYSHNAVI BADRINARAYANAN (2018A8PS0004G)

Student write-up

Short summary of work done during PS-II: I worked in the Global Data Science (GDS) Credit and Collections Team. As an intern, my tasks were heavily analytics based with a bit of modelling towards the end. I worked end to end on PoC where I had to find an appropriate third party application for PayPal use. For this, I performed market analysis, arranged demo calls, created base data sets, performed analysis and finally picked one product. Further, my team was also working on building a model as a version 2 of a pre-existing model. For this, I was involved in understanding version 1 and comparing it to the model in use to figure out what improvements were required. Additionally, I was involved in creation of the base for the second version which

included data pulls, basic model creation using Random Forest Regressor and other similar ML algos and identifying how useful it was using different metrics. My last project in my team was to make use of a software built by another team in PayPal on Graph Embedding Techniques in ML to see how it could be useful to the model creations that occured in my team.

Tool used (Development tools - H/w, S/w): Python (Pandas, Numpy, Scikit Learn etc), SQL (Hive & Teradata), Excel.

Objectives of the project: There wasn't one particular objective, I did the series of tasks assigned to me.

Major learning outcomes: Apart from learning how to work in a massive corporation like PayPal, I learnt a lot about data analytics, ML model building and using massive data sets like that of PayPal.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Everyone in PayPal is very friendly and helpful, and there are support channels for almost every query one might have. Like any other workplace the company would expect you to be dedicated, hardworking and most of all willing to learn. They are more than willing to let you in on meetings that have nothing to do with your task if you take the initiative to want to join it for your understanding. My team in particular went deep into ML and would perhaps require a little bit of experience for you to get the most out of your work there. I wasn't very experienced, but I still had a decent team after spending most weekends learning by myself. Overall, its a great environment to learn. My team has a concept called 'Research Fortnight' where every employee can take 2 weeks out of every quarter to perform research on something ML related they find interesting apart from their own deliverables. Further, my team had multiple knowledge sessions and discussions on ML that made it a great experience.

Academic courses relevant to the project: DSA.

PS-II Station: PAYPAL, Bengaluru

Faculty

Name: Akshaya G

Student

Name: AASHYA (2017B5A30981P)

Student write-up

Short summary of work done during PS-II: Worked with technologies like GraphQL, Isolated Component Testing and Cypress automation.

Tool used (Development tools - H/w, S/w): Jira, Confluence, Cypress.

Objectives of the project: Building product or working on existing product for Global Merchant Lending Domain.

Major learning outcomes: GraphQL, Isolated component testing, Cypress.

Details of papers / patents: None

Brief description of working environment, expectations from the company: I found the work culture and environment satisfactory.

Academic courses relevant to the project: Yes, basics from courses are always helpful for professional projects.

PS-II Station: Petasense - Services & App Development, Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: AKRITI SRIVASTAVA (2017B1A10482P)

Student write-up

Short summary of work done during PS-II: The first project was a full stack feature where I worked on comment support for activities in Petasense webapp. It required the knowledge of REST APIs using SQLAlchemy, Flask, ReactJs and Redux.Also wrote functional tests and unit tests for the feature.
The next project was UI kit development which was a front end task.
The final project was making an internationalisation framework for Petasense webapp,using react i18next on frontend and flask-babel on backend.

Tool used (Development tools - H/w, S/w): Flask, ReactJs, Redux, sqlalchemy, postgresql, React storybook.

Objectives of the project: Full stack features.

Major learning outcomes: Full stack development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Its a very good PS station for learning if you want to build your career in software development. You'll be given features to work on both frontend and backend. The mentors are helping and approachable.

Academic courses relevant to the project: OOPS, DSA.

Name: PRAKHAR SANKRITYAYAN (2017B1AA0047G)

Student write-up

Short summary of work done during PS-II: Worked on multiple projects. Created snooze functionality for events, to snooze notifications. Made the UI kit for the whole webapp using React Storybook. Worked on other UI Improvement tasks. Made an API for unassigning bearing from a machine. Solved multiple bugs. Worked on Motor Current Signature analysis, made envelope alarm for current sensor generated data, such that the user gets notified when the barrier is crossed.

Tool used (Development tools - H/w, S/w): React, Redux, Flask, PostgreSQL, SQLAlchemy, Celery, Git, Postman.

Objectives of the project: Some of these were feature requests by the clients, such as the snooze functionality. Whereas the envelope alarm for current sensor generated data should be able to detect faults in various kinds of machines before it actually breaks down, thus saving a lot of money.

Major learning outcomes: Learnt how industry grade software is made. Got hands on experience with full stack development.

Details of papers / patents: No paper / patent was published.

Brief description of working environment, expectations from the company: Since it's a small company the level of interaction with other team members is really high. You get to learn a lot from other experienced members. They expect you to take full ownership of the work given to you. The work is challenging but the people are helpful, so you end up finishing your tasks on time. Work life balance is also nice.

Academic courses relevant to the project: Object Oritented Programming, Computer Programming.

Name: VARSHITA MOGALAPALLI (2017B4AA0853G)

Student write-up

Short summary of work done during PS-II: Designed a sample code based on HSM concept to have insight on transitions between states and substates. Developed a new feature on the firmware to keep track of the frequency of tasks performed by the device. Improved the design for state-based measurements and wifi back-off logic resulting in optimised battery life. Worked on creating a JSON parser.

Tool used (Development tools - H/w, S/w): C,C++, VS Code, Squirrel and Git.

Objectives of the project: Firmware development.

Major learning outcomes: Object oriented design, C/ C++, Hierarchical state machines, JSON.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Mentors are very helpful. Startup culture.

Academic courses relevant to the project: OOP, CP.

Name: AYUSHI AGRAWAL (2018A3PS0443P)

Student write-up

Short summary of work done during PS-II: In-depth understanding of testing framework architecture with requirement and design model and implementation for multiple requests with

multiple test case and multiple tests jobs to perform on Test Agent and Cloud Handler. Integration of gRPC communication protocol with the files to run Agent as gRPC server and server and Core Service as gRPC client, which can interact with each other to pass information using insecure gRPC channels. Studied about RESTful API, python code of Petasense Cloud for different API calls. Data analysis and automation for cloud data to verify the behavior of primary and secondary devices.

Tool used (Development tools - H/w, S/w): PyCharm, Visual Studio, Ubuntu, Postman, StarUML.

Objectives of the project: Before, there was no framework from where user / employee can access and implement different tasks at one place. Hence, the main objective of the project is to design a common framework through which one can give different requests and get the response. Also now there is no need to explicitly go to cloud to read and fetch data.

Major learning outcomes: I worked as an individual contributor on the project. Hence, from designing to development I got a wider scope for learning. I learnt how to choose required tech stack and programming language. I worked with gRPC communication protocol and RESTAPI. Also, Data analysis of cloud data and automation the data to verify functioning of primary and secondary devices.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It is a small company with 40-50 employees. Hence, you get to work on different projects. In general, each intern were allotted more than one project. But, since my project started from scratch hence, I worked on only one project. If you are inclined towards learning perspective then, you can learn a lot here.

Academic courses relevant to the project: DSA, OOP, IoT.

Name: BHAVYA BHATIA (2018A4PS0846P)

Student write-up

Short summary of work done during PS-II: I was involved in various projects across front-end and back-end, the tech stack used was Reactjs, Redux, Flask and SQLAlchemy. I designed and implemented comment support functionality using CRUD operations making use of Postman. I created a UI-kit for the UI components using storybook.js and made the react UI components more robust and reusable.The final major project was to internationalise the webapp to onboard japanese and spanish users so I designed and implement the framework for the translation of the webapp, wrote python script to fetch translations from spreadsheet and used google translate API. Apart from these major projects I was also assigned to fix some minor bugs and wrote cron jobs using celery and celery beat.

Tool used (Development tools - H/w, S/w): React, Redux, Postman, Git, Flask , SQLAlchemy.

Objectives of the project: For the internationalisation project the major objective was to make the webapp multilingual in order to onboard japenese and spanish clients.

Major learning outcomes: The whole development process, best practices while writing production level code, React concepts, Git workflow, REST APIs.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: As its a small startup, strength of the IT team is around 20 people. This makes everyone very approachable. Everyone is supportive and will help you in your projects throughout. You'll get to experience the whole software development workflow from design to testing to code review. The working hours will be 9-5 and you'll hardly be disturbed after that.

Academic courses relevant to the project: OOP, DSA.

PS-II Station: Piramal Group, Mumbai

Faculty

Name: Ankur Pachauri

Student

Name: HEMANT BHARTIYA (2018A1PS0006P)

Student write-up

Short summary of work done during PS-II: 1. Being part of Business Intelligence Unit, developed fully automated interpretability and monitoring dashboard for various live models.
2. Data collection and analysis for macro variables analytics engine.
3. Data analysis and modelling of fraud detection framework to be implemented in loan application verification process.

Tool used (Development tools - H/w, S/w): Python, Power BI, pgAdmin, MS Excel.

Objectives of the project: Developing a fully automated model monitoring and model interpretability framework.

Major learning outcomes: Model monitoring and interpretability framework, handling data in credit risk domain and building models around them.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was very good and supportive. You are responsible for your project and your work and contributions are discussed with leaders in the team and are treated in the same manner as that of a full time employee.

Academic courses relevant to the project: ASM, FODS, ML.

Name: KARANVIR SINGH SIDANA (2018A4PS0174P)

Student write-up

Short summary of work done during PS-II: I was part of the Partnership Business team. Worked on the loan-related data to build a credit risk model. Implemented the entire Data science pipeline, including, data collection, feature engineering, feature selection, model building & tuning, and Prediction Analysis. Also got a chance to work on web-based technologies and combined them with Machine Learning Modelling. Also got to work on many Ad hoc Analyses, together with my manager.

Tool used (Development tools - H/w, S/w): Python-Pandas, Numpy, skLearn. Spyder IDE. MS-Office. SQL.

Objectives of the project: 1) Credit Risk Modelling. 2) Automated Machine Learning Workflow.

Major learning outcomes: Got a good understanding of building complete machine learning pipelines, including querying data from the warehouse, data processing, feature engineering, machine learning modelling, hyper-parameter tuning, selection of various metrics and data visualizations. Also got familiarized with web based technologies. I also got a pretty decent understanding of the Lending Business, and how various stakeholders in the business work together. I also learnt how to build a credit risk model end- to-end from defining the problem statement to deploying the model.

Details of papers / patents: Not Applicable. The project involves the company's data. Hence, can not be shared.

Brief description of working environment, expectations from the company: When I had joined Piramal, the team in which I was interning, it was still in the building phase, so the problem statement I was working on was not well defined. Also, I was not learning much in the first half of my internship. But After 2.5 months team was restructured, and the leadership positions in our unit was established, the projects were redefined, and the tasks, I was given were good and I

enjoyed working on them. Although the team was in a building phase, but one thing that has remained same is the working environment. The working environment is great, and the work culture is quite good.

Academic courses relevant to the project: RDBMS, Data Structures and Algorithms, Applied Statistics, Machine learning, Foundation to Data Science.

Name: GOLATKAR ARCHIT RAJIV (2018A4PS0572P)

Student write-up

Short summary of work done during PS-II: Created a bank statement analyzer for the company's lending business. Built an NLP model to categorize the transactions from a bank statement (multiclass classification). Created around 1000 variables extracting information from a BS and analyzed them. These variables will be used to build models determining the credit worthiness of a customer. Wrote some rules to identify fraud, generate cashflow and estimate income from a BS. Apart from these, major time went into automation of codes and documenting codebases.

Tool used (Development tools - H/w, S/w): Python, Excel, Spyder, PostgreSQL.

Objectives of the project: Create a bank statement analyzer for the company to asses the creditworthiness of new customers.

Major learning outcomes: Learnt a lot about the finance/lending business. Learned to make Data driven decisions.

Details of papers / patents: None

Brief description of working environment, expectations from the company: You are expected to work from 9 to 6. However no one will check unless you have meetings. They won't

make you work on weekends. At the beginning you might not get enough work. Later you are expected own your project and it gets pretty hectic during the last few weeks. This will only happen if you get a good big project. They assign a mentor to us and he/she will guide you throughout the project.

Academic courses relevant to the project: Applied Statistical Methods, Artificial Intelligence.

Name: SARVESH NAND KUMAR KHETAN (2018A4PS0947H)

Student write-up

Short summary of work done during PS-II: 1. Insights Lab Website built a basic MVP website which can hold all the dashboards that the organization is building and thus is a one stop solution to find any dashboard for any business guy.
2. Architecture design of Datamart pipeline flow along with hands of coding this architecture to let the data flow and make available the final datamarts on a Power BI dashboard. We also started working on enabling an intelligent system over this portal which can automatically perform VOICE to SQL (or TEXT to SQL) task and thus help getting insights from the datamarts via simply asking questions. (this is really a research problem in my opinion and we made less progress on this due to lack of time)
3. Data driven competition.
We participated in a competition held on datadriven website. The problem statement was to predict the level of damage on a building when an earthquake happens.

Tool used (Development tools - H/w, S/w): VS Code, PyCharm, AWS, RASA, Excel, PgAdmin, Postgres SQL, Pytorch, other ML and DL libraries.

Objectives of the project: The SSBI project will play a pivotal role in the future for the company because it is a portal via which a business guy can easily get the required insights from this portal since it has been enabled with an intelligent system capable of doing this and hence the business

guy need not go to the BIU team back and forth requesting for insights and thus saving a whole lot of time and miscommunications.

Major learning outcomes: Architecture designing of data pipeline flows while building a large organizational DataMart. Challenge here is to keep future in mind and design a modular, future proof architecture. Also learnt certain soft skills like communication and building professional relationships with peoples and using them to one's advantage.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is welcoming and people are kind as well as willing to help always but there are few exceptions everywhere.

Academic courses relevant to the project: ML, DL, FODS, DBMS, OOPS.

Name: PIYUSH MAHESHWARI (2018A8PS0447G)

Student write-up

Short summary of work done during PS-II: I developed a Consent Management Platform. Initially consent was managed internally to each service at Piramal, but I decoupled it from existing services and developed a external system which was flexible, scalable, easy to integrate with any service by importing dependencies, and reduced the complexity of the system architecture at Piramal.

Tool used (Development tools - H/w, S/w): Platforms- IntelliJ, AWS, Kafdrop, Jenkins-Docker, GitLab, Robo3T, Jira-Confluence.
Frameworks- SpringBoot, Apache Maven, Kafka.

Objectives of the project: The major objective of this project was to reduce the complexity of system architecture by decoupling the Consent Management Service from other services. Due to

exponential increase in services offered by Piramal and incremental user database, it is very difficult to manage it internally in each and every service.

Major learning outcomes: 1) Learnt how to build a backend service from scratch.
2) Got familiar with many business related aspects of any development.
3) Improved communication skills with business partners, senior executives and product managers.
4) Learnt about the end-to end journey of a product development in businesses.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment in Piramal is great with flexible hours and there are tons of opportunities to learn, to use market latest techniques and to develop both your technical and soft skills.

Academic courses relevant to the project: DSA, OOP, DBMS, OS.

Name: PRATYUSH KHARE (2018ABPS0089P)

Student write-up

Short summary of work done during PS-II: My work revolved around retrieving large data tables using complex SQL queries, merging them based on different logics, cleaning the data and then grouping and summarizing the data which was then to be used for either a machine learning model creation or for showing them in easy to understand graphs and plots to the business teams. Some the projects that I worked on are -
1. Productivity Analysis of Sales Employees 2. Analysis of Call Center Data 3. Portfolio and Customer Segment Analysis.

Tool used (Development tools - H/w, S/w): PowerBI, Excel, Powerpoint, R, Python, pgAdmin.

Objectives of the project: Productivity analysis of sales employees of PCHFL.

Major learning outcomes: Building complete machine learning pipeline starting from Fetching Data from online warehouses, cleaning and modifying data, feature selection and model fitting and finally getting productive insights from the results and finally presenting them in an easy to understand format to the stakeholders.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is very good. Everyone I interacted with during my work was very friendly and willing to help if you don't understand something or are stuck at a particular step. My mentor connected with me whenever I needed help. Work is enjoyable if one has an interest in Data Science. I got to work on multiple different projects during the internship. One needs to have knowledge about basic Excel functions and how to use pivot tables before joining. Since my work mostly revolved around working with multiple large tables, one needs to have a good understanding of Python libraries such as Pandas and Numpy or equivalent libraries used in R.

Academic courses relevant to the project: ML, FoDS, ASM, DBMS.

PS-II Station: Powerhouse 91 - Content Strategy, Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: BAREDDY VAMSIDHAR REDDY (2017B3PS1012G)

Student write-up

Short summary of work done during PS-II: Powerhouse91 is a E-commerce roll up company, which is modelled after American company Thrasio. At PH91 we buy brands that are selling on Amazon based on their profit margins and the products range. My work was to work on the data that we recieve from brands, make profit and loss statements, Asin analysis (finding out the highest selling product) and make a brand evaluation sheet. This will be discussed internally whether or not to approach the brand for further steps, also worked on category thesis which is a detailed report on specific categories, the growth rate, market size of that particular category and looking for products that are unique and that can be integrated in PH91 eco system.

Tool used (Development tools - H/w, S/w): Excel, Helium-10.

Objectives of the project: The objective is to mainly able to figure out the EBITDA margins of the brands that we get data for. To understand the metrics that are checked before acquiring any brand.

Major learning outcomes: Improved my skills in Excel.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It is quiet demanding as it is a start-up that started in early 2021.

Academic courses relevant to the project: Fundamentals of Finance and Accounting.

PS-II Station: PricewaterhouseCoopers (PWC), Gurugram

Faculty

Name: Srinivas Kota

Student

Name: ROHAN BOHRA (2017B4A10861G)

Student write-up

Short summary of work done during PS-II: Project - Preparation of strategic business plan for Client - My team conducted primary and secondary research to gather relevant information based on the client's specifications, which included domestic market demand, ease of operations, export potential, typical investment, and so on. We researched many value chains associated with different chemicals, we even analysed the product portfolio of the competitors and the big names in the chemical and petrochemical industry. We devised a metric to score all the products based on the information available after evaluating all the parameters. The goal was to find potential products and assess cu rrent and future market demand as well as operational constraints. Following that, we looked at the shortlisted products' techno-commercial requirements, policies, regulations, taxes and duties. We finally developed project execution and implementation roadmap, investment size & expected revenues and returns.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: Preparation of strategic business plan for client.

Major learning outcomes: Strategization, note making, due diligence, presentation making, public speaking.

Details of papers / patents: None

Brief description of working environment, expectations from the company: This PS gives you exposure to work in different projects. I personally worked on around 4 projects.
Project - Roadmap to reduce import dependency of India
Project - India @75 GCPMH'21
Project - Preparation of strategic Business Plan for Client
Project - Developed a product mapping sheet to understand product portfolios/value chain of different Fertilizer manufacturers

In general, working environment is very good. Rest, work would depend on which team would you get alotted. PPO chances are decent. CTC is pretty low as per industry standard. You can learn a lot if you are active, motivated and take initiatives.

Academic courses relevant to the project: FoFA.

Name: PASUMARTHI VENKAT (2018A4PS0682H)

Student write-up

Short summary of work done during PS-II: Worked on multiple projects. Work mostly involved secondary research on the oil and gas sector like researching on gas power plants, coal plants, CGD network, different sectors using oil and import projections to 2030 etc and compiling these findings into a ppt or report. Work will mostly be on the same grounds i.e. research work related to oil and gas and then making ppts, reports. Apart from this as a consultant you will be working with other teams quite often so you will learn a lot of diverse things about the industry.

Tool used (Development tools - H/w, S/w): Excel, Word, PPT.

Objectives of the project: 1) Assess viability of stranded gas power plants 2) Assess existing policies and measures on import reduction of oil and suggest measures to reduce imports by 10% from 2015 levels.

Major learning outcomes: Learn about the job of management consultants. Provides a good experience into consulting. Apart from this knowledge about oil and gas sector is picked up by working on different projects.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My Manager and team members were really helpful and assisted me right from day 1. Work load depends on you and your wish to learn more. Overall work was not too hectic or not too chill.

Academic courses relevant to the project: FM, FoFA.

PS-II Station: ProteanTecs, Bengaluru

Faculty

Name: Swapna S Kulkarni

Student

Name: AKSHAT GUPTA (2018A3PS0447P)

Student write-up

Short summary of work done during PS-II: The organisation uses a reliability degradation modeling and monitoring method based on a combination of IC novel embedded circuits, and off-chip machine learning algorithms which infer the digital readouts of these circuits during test and operational lifetime. Together, they monitor the margin degradation of an IC, as well as other vital parameters of the IC and its environmental stress. This method enables the prevention of future failures, and points to the Physics of Failure, thus estimating the time to failure.The main focus of the project is perform Quality Analysis runs(Logic synthesis and PnR) using various proteantecs IP to check for its reliability before it reaches the hands of the customer.

Tool used (Development tools - H/w, S/w): DC/ICC2, tcl, perl.

Objectives of the project: To check for the tool understanding of Proteantecs' solution, and perform QA runs for different customer blocks to check for issues and debug those issues.

Major learning outcomes: Debugging, digital design, software testing.

Details of papers / patents: No paper or patent

Brief description of working environment, expectations from the company: 1) Good working environment.
2) Complete training of the work would be given before starting main project.
3) Should have a decent knowledge of Digital design and ADVD to perform on par with company requirements.
4) PPO chances not much if you are not early grad, if performance is on par, you will get PPO.

Academic courses relevant to the project: DD, ADVD.

Name: YAPARLA NAGA SHASHANK REDDY (2018A3PS0915H)

Student write-up

Short summary of work done during PS-II: Quality analysis of the proteanTecs EDA and internal flow manager. Finding, reporting bugs and possible solutions to the R&D team. Integrating and synthesizing block RTL. Performing place and route and STA on various test blocks with different manufacturing processes. Various stages of physical design including floorplanning, partitioning etc.

Tool used (Development tools - H/w, S/w): Cadence and Synopsys EDA, in-house proteanTecs EDA.

Objectives of the project: Improving the quality of the proteanTecs EDA solution.

Major learning outcomes: Coding in Perl, TCL. Design automation, various stages of physical design.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a rather relaxed working environment, deadlines exist but not difficult to meet. Got to work with some of the best engineers in the USA and Israel offices as well. Very comprehensive training programme, with senior engineers from India, Israel and USA chipping in. Very nice work culture as you meet with the manager and the senior engineers everyday and they are always ready to help in case you are stuck. Company expects you to learn quickly and not be afraid to ask questions.

Academic courses relevant to the project: ADVD (especially Digital VLSI Design), Digital Design.

Name: SOURAV PRASAD (2018A8PS0582H)

Student write-up

Short summary of work done during PS-II: Creating gds from rtl using synopsis and cadence tool. Learnt tcl and pearl scripting. Gained experience over synopsis tool like dc, icc2 and fc. Learnt the flow how rtl is synthesized and place and route takes place.

Tool used (Development tools - H/w, S/w): Dc, icc2, fc.

Objectives of the project: Rtl to gds.

Major learning outcomes: Gained tool knowledge and flow of synthesis to pnr.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Proteantecs is an amazing place for a fresher to gain experience as most of the colleagues have more than 7

years of experience in the field. Mentors and senior colleagues were extremely patient and friendly to help in understanding the tools and the work.

Academic courses relevant to the project: Advd, digital design.

Name: SOURAV PRASAD (2018A8PS0582H)

Student write-up

Short summary of work done during PS-II: Quality assessment of proteantecs solution and suggested few improvement that was later accepted and released in their new version release of solution.

Tool used (Development tools - H/w, S/w): Fusion Compiler, Unix & Digital Compiler.

Objectives of the project: Integration of Proteantecs Solution into Block Register Transfer Level and improving the quality of proteantecs solution.

Major learning outcomes: Suggested few improvement in their current solution and later it was released in the new release version of their solution. Found few bugs that we found during quality assessment which was later fixed.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Mentors are very skilled and very helpful.

Academic courses relevant to the project: Advd

Name: KARAN HARISH SONI (2018A8PS0647G)

Student write-up

Short summary of work done during PS-II: Quality analysis and check of physical design blocks. Doing synthesis and place and route of different design blocks, creating their DEFs and comparing the timing and QoR of the blocks that run with the IP of ProteanTecs with those without them. Identified the errors and bugs in the flow due to user errors, flow errors, tool errors or mistakes in the RTL or TCL files.

Tool used (Development tools - H/w, S/w): TCL, Perl, Unix shell, DC shell, Genus, Innovus, Verilog.

Objectives of the project: To do quality analysis and check of physical designs to check impact of ProteanTecs IP on design blocks.

Major learning outcomes: Learnt TCL scripting, verilog, genus/innovus and dc/icc2 tools and the whole design flow from Synthesis to PnR.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very helpful and friendly environment with flexibility on work timings and deadlines. Basic expectations are just to get familiar, learnt on the job and complete the tasks and you'll get a PPO.

Academic courses relevant to the project: Advd, analog electronics, MuE.

Name: KARAN HARISH SONI (2018A8PS0647G)

Student write-up

Short summary of work done during PS-II: The organisation uses a reliability degradation modeling and monitoring method based on a combination of IC novel embedded circuits, and off-chip machine learning algorithms which infer the digital readouts of these circuits during test and operational lifetime. Together, they monitor the margin degradation of an IC, as well as other vital parameters of the IC and its environmental stress. This method enables the prevention of future failures, and points to the Physics of Failure, thus estimating the time to failure.

Tool used (Development tools - H/w, S/w): Chip design, VLSI, Verification, Chip health monitoring, Chip testing.

Objectives of the project: The main focus of the project is perform quality analysis runs (Logic synthesis and PnR) using various proteantecs IP to check for its reliability before it reaches the hands of the customer.

Major learning outcomes: Core understanding of design verification role in semiconductor industry.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work culture is very flexible and accommodating with no real hard and fast timings for logon and logoff but rather a task based system of working. The seniors are very friendly and supportive and the expectation is always just to give full dedication to attempting all the tasks assigned than expecting strict results everytime.

Academic courses relevant to the project: Digital design, ADVD, MuE and Analog Electronics.

PS-II Station: Psi Phi Global Solutions Pvt. Ltd., (OkCredit), Bengaluru

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: PARYUL JAIN (2018A7PS0279P)

Student write-up

Short summary of work done during PS-II: • To build an internal application for the use of Data analytics and product team.
• To find anomalies in the core user data of 5.5million+ active users of OkCredit app.
• To help in the building of a complete data platform.
• To implement automated HTML template mailing about GCP billing.
• To create a complete data health monitoring dashboard on Apache superset.
• To create an airflow DAGs monitoring dashboard on Apache superset.
• To integrate anomaly detection with Slack using Opsgenie so that the team gets error notifications.

Tool used (Development tools - H/w, S/w): Python, Big Query, Google Cloud Platform (GCP), Retool, APIs, Apache Superset, Apache Airflow, OpsGenie.

Objectives of the project: • To build an internal application for the use of Data analytics and product team.
• To find anomalies in the core user data of 5.5million+ active users of OkCredit app.
• To help in the building of a complete data platform.
• To implement automated HTML template mailing about GCP billing.
• To create a complete Data health monitoring dashboard on Apache superset.
• To create an Airflow DAGs monitoring dashboard on Apache superset.
• To integrate anomaly detection with Slack using Opsgenie so that the team gets error notifications.

Major learning outcomes: The work I did was from various domains and included parts of Frontend, backend, big data and has helped gain a lot of knowledge. It has especially helped me understand how people work in a professional manner and gain the habit of coding regularly.
During my current training at OkCredit, I learnt a lot of new things, including technical and professional abilities. I worked as part of a team and was actively involved in the project's development. The project has a lot of learning opportunities, and my colleagues were quite helpful.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was pretty good, the vacations were technically unlimited and it was easier to talk to your mentor and other team members. They also tried including interns in festival celebrations and events etc to create an inclusive environment.

Academic courses relevant to the project: DBMS, DSA.

PS-II Station: PwC MC-Analytics, Mumbai

Faculty

Name: K Venkatasubramanian

Student

Name: ANURAJ SOM (2018A1PS0037P)

Student write-up

Short summary of work done during PS-II: The project was based on implementing traffic flow optimization using quantum annealing. Initially worked on understanding QUBO formulations and

then worked on implementing and testing the models to compare with corresponding classical solutions in terms of metrics like time and quality.

Tool used (Development tools - H/w, S/w): Python, Leap.

Objectives of the project: To implement and compare the solutions of a single source single destination traffic flow problem using quantum annealing to the corresponding classical solutions.

Major learning outcomes: To understand QUBO formulations and to be able to extend it to problems beyond the traffic flow problem for further comparison.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very good. Everyone is very supportive and approachable, even people in very senior positions. The working hours are also quite flexible. Team bonding activities are held quite frequently. We were treated as full-time employees were, with as much freedom but with equal responsibility.

Academic courses relevant to the project: Machine Learning, Linear Algebra.

Name: SIDDHARTH GUPTA (2018A8PS0342P)

Student write-up

Short summary of work done during PS-II: Worked on real time client projects with teams across both US and India.

Tool used (Development tools - H/w, S/w): Pyspark, Python, Pandas, Alteryx, Excel.

Objectives of the project: Forecasting Contra, Store Segmentation, Customer Analysis.

Major learning outcomes: Various Analysis Techniques, Data Preprocessing, Documentation, Pyspark.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Excellent work environment and everyone is very helpful. A flat hierarchy in term of ideas, you have to speak up during calls and present your own work. Basic ML, python coding and SQL are expected.

Academic courses relevant to the project: NNFL

Name: ATHARVA MEHTA (2018ABPS0485P)

Student write-up

Short summary of work done during PS-II: I have worked with Innovation and emerging technology team based in US. Domain of my work is Natural Language Processing in which I trained and fine-tuned an ELECTRA model and carried out various experiments with the model and data. I also applied Active learning into the NLP field.

Tool used (Development tools - H/w, S/w): Azure, AWS, Python, Pytorch, Tensorflow, GitHub, Excel, SQL.

Objectives of the project: To Pre-train and Fine tune ELECTRA model on domain specific data and find the task uplift. Reduce data labelling efforts by using active leaning.

Major learning outcomes: Technical skills - Learnt how to organize and comment code on GitHub, learnt how to write technical paper, learnt new python libraries like small-text, hugging face, learnt how to manipulate complex data, learnt how to write blog.
Other skills- Developed good communication and presentation skills.

Details of papers / patents: Wrote technical paper on the research findings (Still to be published), Wrote Blog for Internal firm use (Looking to make public on medium).

Brief description of working environment, expectations from the company: PwC is one of the big fours of the consultancy hence all processes are quite ordered/disciplined in the firm. Work environment is quite good with firm like PwC. Even through I worked with US team work timing never exceeds past 9 PM IST and Morning working hours are quite flexible with Sunday Saturday off. You can approach any member of the team or firm anytime and they all are quite helpful. Weekly and Monthly fun activities are also conducted and good work is always appreciated. Work well and there is a high chance of receiving PPO.

Academic courses relevant to the project: Data Science Minor.

PS-II Station: Qure.ai, Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: ARJUN AGARWAL (2017B3A70285G)

Student write-up

Short summary of work done during PS-II: Used various artificial intelligence and deep learning models on radiology scans like MRI and CT scans to identify whether the patient is having a stoke or not (reduced blood supply to parts of the brain).

Tool used (Development tools - H/w, S/w): PyTorch, DICOM and many other misc. tools.

Objectives of the project: To reduce the door-to-needle times of stroke patients in emergency rooms in hospitals worldwide thereby saving valuable brain tissue (Time is brain).

Major learning outcomes: Very good opportunity to learn how to work in a fast-paced startup environment. Learnt about the IT infrastructure used in companies and how projects are distributed and deadlines are met. Learnt about PyTorch and PyTorch Lightning from scratch (knew tensorflow beforehand). Learnt a lot about the stroke triaging workflow followed in hospitals.

Details of papers / patents: No papers/patents have been completed from my projects as of yet, however there is a high likelihood of the same in the near future (and in general too).

Brief description of working environment, expectations from the company: Super flexible work hours and very friendly employees. They help with understanding the concepts as well as with writing code. All internal communication is done on Slack which makes it very easy. qReads sessions are held weekly to learn more about the company and the ongoing projects. qMates program is held every month which consists of fun games and prizes and an opportunity to get to know your peers and socialize.

Academic courses relevant to the project: Deep Learning, Computer Vision, Medical Image Analysis, Artificial Intelligence.

PS-II Station: RDandX Network LLP, Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: RAJAT PRASHANT KHADE (2018A3PS0555H)

Student write-up

Short summary of work done during PS-II: I worked as a full stack developer. I contributed in major bug fixes and developing new features for the product.

Tool used (Development tools - H/w, S/w): Nodejs, Reactjs, Docker, Jenkins, Redis, Clickhouse, MongoDb, Postgres and some css libraries for UI/UX.

Objectives of the project: Developing a programmatic saas platform called DSP (demand side platform).

Major learning outcomes: Learnt about front-end and back-end development. I got the chance to learn all about a product life cycle.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I had a lot of fun while working. We had a very friendly and helping environment. Everyone on the team was very talented and was always ready to help whenever required.

Academic courses relevant to the project: DSA, OOPs.

Name: VEDANT RAM MURKUTE (2018A3PS0573G)

Student write-up

Short summary of work done during PS-II: I was assigned to work on the buy vertical of the company's product ReBid as a Frontend Engineer. Starting weeks were mostly about understanding the codebase (in Backbone.js) and general work flow of product. I developed few reusable components in React as a part of migrating the landing web page from Backbone to

React. Implemented a help guide widget using MERN stack. Added feature like T&C and manual funding instrument sync in Backbone framework.

Tool used (Development tools - H/w, S/w): React, MongoDB, Mongoose, Express, Node, VS Code, Docker, Git, Figma.

Objectives of the project: Developing scalable product solutions.

Major learning outcomes: Version control, writing clean and readable code, working in a team and collaborating on a commercial real-world project.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Entire PS was WFH. The work environment was quite chill and the entire team was patient and helpful even after being an early stage startup. The CEO always motivated to push ourselves and appreciated every bit of work. In all it was great experience.

Academic courses relevant to the project: DSA, OOP, C Programming.

PS-II Station: ReferralYogi Technologies Pvt. Ltd., Chennai

Faculty

Name: Akshaya G

Student

Name: SAGAR SALUJA (2017B5A10979P)

Student write-up

Short summary of work done during PS-II: The given project is intended to make a feature in the existing referral yogi web application , which allows the user to send automatic replies to customers via social media messaging apps outside and within their working hours. Technologies used to complete the project :Ruby on Rails , Javascript , AJAX , MYSQL, HTML , CSS , Bootstrap.

Tool used (Development tools - H/w, S/w): ruby on rails , javascript , ajax , html , css , bootstarp

Objectives of the project: The given project is intended to make a feature in the existing referral yogi web application, which allows the user to send automatic replies to customers via social media messaging apps outside and within their working hours. Technologies used to complete the project: Ruby on Rails, Javascript, AJAX, MYSQL, HTML, CSS, Bootstrap.

Major learning outcomes: Ruby on rails, Web development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Startup environment, flexible working hours.

Academic courses relevant to the project: Data Structures and Algorithms, Object Oriented Programming.

PS-II Station: Reflexis Systems India Pvt. Ltd., Pune

Faculty

Name: Pravin Yashwant Pawar

Student

Name: PRANAV MISHRA (2018A8PS0469G)

Student write-up

Short summary of work done during PS-II: Worked on web development projects.

Tool used (Development tools - H/w, S/w): JAVA 1.8, JavaScript, JSTL, Eclipse, JIRA, Confluence, Spring framework.

Objectives of the project: To resolve various bugs arising in the RWS software and to make improvements in the existing functionalities.

Major learning outcomes: Web development, Debugging, DevOps, Agile methodology.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Decent working environment, flexible timings and professional peers. The company expects every intern to have basic knowledge about web development.

Academic courses relevant to the project: Object Oriented Programming.

Name: MEDAPATI ADITYA VARDHAN REDDY (2018A8PS0558P)

Student write-up

Short summary of work done during PS-II: As part of PS-II I was allotted to develop frontend pages for a platform in Microsoft teams, with AI-powered workforce management capabilities, which provides you with the ability to optimize labor budgets, forecasts, and schedules—while supporting modern, flexible labor models. The teams that we develop offers powerful, intuitive tools for budgeting, forecasting, modelling, and scheduling your labor needs at the branch and market level, with optional modules for Employee Self-Service and Time and Attendance.

Tool used (Development tools - H/w, S/w): Visual Studio Code, Microsoft Teams.

Objectives of the project: The objective of the project is to develop an app that helps workforce management. The outcomes of this project are 1) Creating a schedule board that shows info about the upcoming shifts of the employes 2) Developing a requests tab where employees can create, edit, track their leave requests 3) Creating an option called shift trade board where they can trade their shifts 4) Also creating availability board where they can check the availability of employees and stores.

Major learning outcomes: Got familiar with typescript, JavaScript, Html, CSS, react.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company has a very healthy work culture. The team is very friendly and is open for new ideas. The work hours are flexible. It has best open door policy, you don't have to take an appointment to talk to manager for any of the problems. Goals are well defined and if we can achieve it, there are lot of opportunities to excel.

Academic courses relevant to the project: Object Oriented programming.

Name: SHIVANSHU AYACHI (2018A8PS0778P)

Student write-up

Short summary of work done during PS-II: I worked on enhancing the Reflexis Workforce Scheduler (RWS), which is one of the flagship products of the company. The main task that I completed was the make the entire application compliant with level AA of the Web Content Accessibility Guidelines (WCAG) 2.1. The Web Content Accessibility Guidelines (WCAG) are part of a series of web accessibility guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C), the main international standards organisation for the Internet. They are a set of recommendations for making Web content more accessible, primarily for people with disabilities—but also for all users with limitations, including limitations due to the users' devices, such as mobile phones. To achieve this I had to make changes to various parts of the application. I worked under guidance from the core development team at the company.
Apart from that I also worked on multiple bug fixes, improvements and some new feature additions in both the front-end and the back-end parts of the application.These were done as and when new problems arose, or at the request of any of the clients of the company.

Tool used (Development tools - H/w, S/w): Java, Spring framework, Angular framework.

Objectives of the project: The broad objective of the project was to make multiple enhancements to the Reflexis Workforce Scheduler. The main task in this was to make the application compliant with Level AA of the WCAG 2.1.

Major learning outcomes: Technologies learnt: Angular, Spring Framework, MyBatis, SQL, Java, Apache Server. Apart from that I also learnt about the agile methodology and how enterprise scale applications are built and maintained.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is good. Sufficient time was provided at the beginning of the internship to get familiar with all the technologies that we would be working with. They also try to give you easy tasks first so you can get familiar with the codebase. Most of the deadlines that are given for completing any assigned task are flexible and there is no pressure as such. They also have daily meetings where you discuss what task you are currently working on and if there are any problems you are facing in completing the task. The team members along with the manager are all friendly and approachable. Overall, the work culture is quite good here.

Academic courses relevant to the project: Object Oriented Programming, Data Structures and Algorithms.

PS-II Station: Reild Residential Properties Pvt. Ltd., (Tech) - Asset Monk, Hyderabad

Faculty

Name: Naga V K Jasti

Student

Name: ADITYA KHETAN (2018A3PS0785P)

Student write-up

Short summary of work done during PS-II: We improved the flow of the existing Assetmonk structure by finding the breaks in their internal website portals, this allowed them to integrate more teams into their site, helped find a third party payment portal as well as mobile user authentication partners. we worked on creating their help desk feature, Retail SaaS mobile App, Sales Portal which they have now completed implementing and is in the testing phase.

Tool used (Development tools - H/w, S/w): Figma, Jira, Confluence, Whimsical.

Objectives of the project: Design internal and client facing products for Assetmonk, improve the functioning of the existing Assetmonk products by using user flows and finding the breaks and Write the User stories and design the user flow and wireframes.

Major learning outcomes: I've written many requirement documents in order to introduce new features and applications like the mobile app. I have created user flows and low as well as high fidelity wireframes and their prototypes.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great people, start up culture therefore no hierarchy, small work force so easy to connect with every one, new projects constantly incoming, full freedom to do your own thing and senior take your decisions into account, on few projects I had sole authority over hence would do what I wanted.

Academic courses relevant to the project: OOPs.

Name: MANAV ARORA (2018A8PS0454P)

Student write-up

Short summary of work done during PS-II: I mainly worked upon the front-end development of saas platform for my company. The major work done by me included development of pages containing multiple table standards in each page to display data, with features like sorting, pagination and search filters etc. Other part of my project was to perform sanity testing for the team of the website, and debug any bugs found by me in this process. Besides this, I was given a task to implement redux in the angular web-app using the ngrx package of npm, that needed me to completely read up the documentation on that, and present before the entire software development team the benefits of implementing the package and how we would go about implementing it in our entire existing application. A small part of the project was to also fix the styling of some of the pages to make them consistent with the other components of the web-app.

Tool used (Development tools - H/w, S/w): Javascript, Angular, CSS, HTML.

Objectives of the project: Front-End Web Development.

Major learning outcomes: I brushed up my knowledge on javascript concepts and learnt angular framework of javascript on the way.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Assetmonk had a very supportive work environment and everyone was eager to help. Each intern was assigned a mentor. The mentor assigned the tasks to the interns and was very helpful towards any doubts that were asked. My entire practice school took place in the online mode on a Microsoft Teams like software. The company expected to have a basic knowledge of javascript, and gave a week to brush up on the concepts. A company employee gave us a tutorial upon the working and basics of angularJS.

Academic courses relevant to the project: Object Oriented Programming, Computer Programming.

PS-II Station: Rupeek Fintech (Non-Tech), Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: PITTA MANASA (2017B2A11655H)

Student write-up

Short summary of work done during PS-II: Rupeek is an online Gold Loan Company. In the Sales team at Rupeek, work assigned to me was to set up reports, dashboards & analytics for different post-disbursal processes. I worked on new initiatives for driving growth.I had to set up

daily funnel monitoring visualizations and analyse business delivery across cities all over India and different channels. Also, manage current funnels and analyse deviation from current funnel shape and derive insights by performing deeper analysis and to drive initiatives for funnel improvement.

Tool used (Development tools - H/w, S/w): Google sheets.

Objectives of the project: Main objective was to drive growth, increase conversion and efficiency

Major learning outcomes: Advance Excel Techniques.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment was friendly and supportive. Mentors were highly experienced in their work.Expectations from interns is to learn quickly and start becoming versatile in work to be helpful.

Academic courses relevant to the project: FM.

Name: PADHMAPRIYA N (2018A1PS0037G)

Student write-up

Short summary of work done during PS-II: 1. Improving the customer experience - Understanding the customer behaviour, response to changes and preferences and taking data backed decisions.
2. Increasing the customer base by expansion to various cities and launching consumer attractive schemes.
3. Tackling competitive organisations' pressure- Understanding of schemes launched by the competitors and taking appropriate steps to tackle the same.

On a concluding note, the work involves mainly increasing the organisation's revenue by analysing different buckets/ stakeholders and implementing data backed decisions.

Tool used (Development tools - H/w, S/w): PostgreSQL, Excel Advanced, Google Sheets

Objectives of the project: 1. Understanding customer behaviour 2. Market Intelligence activity to tackle competition pressure 3. Increase customer base by city expansion and offering new, customer attractive schemes.

Major learning outcomes: Technical - Advanced Excel, Google sheets for data analysis, PostgreSQL.
Soft skills - Communication skills, critical thinking and analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: 1. Very flexible and knowledgeable peers, open to feedback 2. Open to change, easy shift to different projects 3. Exponential learning curve 4. The (open) learning environment that existed between the team members and within the organization even if it was WFH was very encouraging.

Academic courses relevant to the project: OOPs.

Name: ADVAIT ABHIJIT GOGATE (2018A1PS0060G)

Student write-up

Short summary of work done during PS-II: Worked on multiple projects mainly in the program management field and data analytics field. Work on heavy on analytics while also required heavy soft skills.

Tool used (Development tools - H/w, S/w): Python, SQL, excel.

Objectives of the project: 1) To Increase Number of Transactions Per Day 2) To Increase revenue per transaction 3) To find out the Lifetime value of a Customer and develop markings accordingly.

Major learning outcomes: 1) Development of Technical skillset 2) Development of Soft Skills and Program Management Skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment was very healthy. Managers and Mentors are very responsive and helpful. Ample scope is given to express opinions and give business input. Time is given to learn new skills. Some days work hours can extend up to late. Work is very analytics heavy and knowledge of SQL and Advance Excel will be helpful. Knowledge of Python will also help but is not absolutely necessary. Overall experience is quite enriching

Academic courses relevant to the project: DSA.

Name: MADHAV RATHI (2018A1PS0723P)

Student write-up

Short summary of work done during PS-II: I was allotted Corporate Function team at Rupeek. My major work revolved around one of the new product of Rupeek. Rupeek majorly works towards Door Step Gold loan. However, in last few months they have launched some other products as well. I found working on this product quite interesting. I worked on data analytics, group operation and product management as well. Rupeek been an start up, gave me a good exposure of a corporate where most of the work depends on individual itself.

Tool used (Development tools - H/w, S/w): MY SQL, Tableau, Advance Excel.

Objectives of the project: 1) To improve the efficency of the new Product 2) To improe the revenue generation through this new product.

Major learning outcomes: 1) Knowledge of Gold Loan Market in India-major competitors and how start ups function 2) Knowledge of software like MY SQL and Tableau 3) Developed critical thinking skills, was involves in meetings with all the big stakeholders of the comapny.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment at Rupeek is pretty decent. Rupeek is a start up and they do expect the intern to initiate things on their own and work accordingly. There has to be self motivation to work in the start ups. For me, it was required more because everyone was working on New product. Overall environment is pretty good, it is a typical startup where you can work on as many things as you want.

Academic courses relevant to the project: FM, FoFA.

Name: BHARDWAJ MIHIR REETESH (2018A1PS0952G)

Student write-up

Short summary of work done during PS-II: My role here at Rupeek was that of a Business Analyst where I had to analyze data Gold Loan transactions here at Rupeek and create different dashboards using SQL,Tableau,Office Tools like Excel and some other softwares.The internship experience,stipend and the overall job opportunities here at Rupeek are amazing.If a particular student is not comfortable with tools like SQL and Tableau then he will have to give a little bit of time in the initial few weeks but thereafter the experience is quite good once you start attending some business meetings.

Tool used (Development tools - H/w, S/w): SQL,Tableau,Office Tools etc.

Objectives of the project: Business analytics.

Major learning outcomes: Technical Skills in SQL,Tableau, Office tools like Excel etc. and different business skills in analytics, communication etc.

Details of papers / patents: No papers or patents as such in this internship.

Brief description of working environment, expectations from the company: The overall experience here at the growth dept at Rupeek was very good.The seniors here were extremely helpful.The overall value addition both to the company and myself has been immense.

Academic courses relevant to the project: Principles of Management / Economics, CS courses which include SQL Query coding, any other business related courses might be helpful in the overall sense.

Name: BHARDWAJ MIHIR REETESH (2018A1PS0952G)

Student write-up

Short summary of work done during PS-II: The overall work experience here at Rupeek was pretty great with wealth of knowledge in both technical and business aspects of the work.The typical workload here at Rupeek revolved around creating different SQL queries,making different dashboards using Tableau and creating and modifying the above data using Excel and similar tools to create an array of different views for better analysis and understanding of the business on a daily basis.The projects involved analyzing different transaction based databases and trends and providing insights based on the same for different teams and different loan types at Rupeek.

Tool used (Development tools - H/w, S/w): SQL,Tableau,Excel,PowerPoint etc.

Objectives of the project: Business and Data Analytics.

Major learning outcomes: Business Analytics, Business Communication, Understanding of Gold Loan market in India, Corporate Culture etc.

Details of papers / patents: No papers or patents as such.

Brief description of working environment, expectations from the company: On the whole the value addition both to the company and myself have been immense and the job opportunities here are very good.The senior members here at my department were extremely helpful and motivating especially in the initial part of my internship.The expectations from the company and the senior members in the department were fairly practical and the workload was distributed accordingly.The overall internship experience in the end was very fruitful for me and I am delighted to have been a part of this company.

Academic courses relevant to the project: Principles of Economics / Management, CS courses revolving around SQL Query and some other relevant business courses.

Name: BHARDWAJ MIHIR REETESH (2018A1PS0952G)

Student write-up

Short summary of work done during PS-II: The overall work experience here at Rupeek was pretty great with wealth of knowledge in both technical and business aspects of the work.The typical workload here at Rupeek revolved around creating different SQL queries,making different dashboards using Tableau and creating and modifying the above data using Excel and similar tools to create an array of different views for better analysis and understanding of the business on a daily basis.The projects involved analyzing different transaction based databases and trends and providing insights based on the same for different teams and different loan types at Rupeek.

Tool used (Development tools - H/w, S/w): SQL,Tableau,Google sheets.

Objectives of the project: Business Analysis at Rupeek.

Major learning outcomes: Business Analysis for Gold Loan process at Rupeek.

Details of papers / patents: No patents / paper published.

Brief description of working environment, expectations from the company: On the whole the value addition both to the company and myself have been immense and the job opportunities here are very good.The senior members here at my department were extremely helpful and motivating especially in the initial part of my internship.The expectations from the company and the senior members in the department were fairly practical and the workload was distributed accordingly.The overall internship experience in the end was very fruitful for me and I am delighted to have been a part of this company.

Academic courses relevant to the project: POE / POM, Some SQL related courses.

Name: ASHOOTOSH SINGH DIKHIT (2018A2PS0080P)

Student write-up

Short summary of work done during PS-II: The whole project was divided into two broad parts.
1. Creation of several tableau dashboard
2. Help the company in running several initiatives.

Overall I have created 4 dashboard namely renewals dashboard, auction dashboard, release completed dashboard, release scheduled dashboard. Towards the end, I was put in operation team where i was supposed to take ownership of running several initiatives to improve the lending book of rupeek.

Tool used (Development tools - H/w, S/w): SQL, Tableau, Excel.

Objectives of the project: Create a control tower for renewals and releases.

Major learning outcomes: Learnt how to use tableau, complete picture of how the company operates in such a competitive environment.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is good but sometimes the mentor expects you to work late after office hours. The company is has strong presence in southern areas and is expanding in other parts as well. The company doesn't expect much from you but only expects that you have appetite to learn.

Academic courses relevant to the project: POE / POM.

Name: SARTHAK RATH (2018A2PS0109H)

Student write-up

Short summary of work done during PS-II: The work was corresponding to the job profile of an associate brand manager. Which is mainly to ensure proper brand guidelines to be followed in all kinds of communication. A proper understanding of the brand and its essence is required to do so successfully. The internship presented a lot of learning opportunities in terms of brand marketing when Rupeek underwent the ATL launch and rebranding phase. There were also several steps that gave an immense learning phase when new products launched to revolutionize gold monetization, as after the ideation phase, the products went to the marketing sampling stage and analysis was done for the same. After successful metrics were observed, some of them will be implemented on a large scale depending on the performance they showed in the sampling stage. The day to day work schedule involves meetings with various stakeholders to ensure and track jobs, briefing teams on various jobs. A good ownership is given to the intern of the communications and collaterals which demands various skills and will challenge in many aspects to get the job done. Coordination, team management and project management are vital skills that will be cultivated during the internship along with business communication and overall development to be ready for the corporate world.

Tool used (Development tools - H/w, S/w): Excel, ppt.

Objectives of the project: To be able to manage the responsibilities of the role of Associate Brand Manager by end of PS duration.

Major learning outcomes: Learnt about all stages of marketing funnel, how new products are introduced, how marketing sampling is done, metrics analysis to derive stats and insights, learnt scheduling, project and team management, OOH management, communication audit and revision, working and functioning of affiliate marketing, ATL and BTL marketing processes, functioning and impact.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is that of a fast paced growing startup where you will be pushed and challenged to learn and grow more professionally. All the employees are great.

Academic courses relevant to the project: Project Planning and Management, Business Communication.

Name: SUBHRANSU BABOO (2018A2PS0902H)

Student write-up

Short summary of work done during PS-II: My work was primarily focused on developing new dormant digital marketing channels for the company and making them cost efficient. Various other ad hoc tasks on a everyday basis were performed. Minor Projects that helped in improving various channels and their efficiencies were undertaken throughout the period.

Tool used (Development tools - H/w, S/w): Tableau, TablePlus, Google Ads, Google analytics, Excel, SQL.

Objectives of the project: ‘Referral Analysis to improve channel efficiency, Project 2: ‘A New Digital Marketing Channel based on Custom Intent Audiences’.

Major learning outcomes: Proficiency in SQL, Excel and Tableau, Fundamentals of marketing, Digital marketing funnels and efficiency boosting.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is absolutely great, people from my team have been very friendly and simultaneously very professional also. The culture is very peaceful and diverse.

Academic courses relevant to the project: FOFA, Computer Programming.

Name: ARITRA GURU (2018A4PS0552P)

Student write-up

Short summary of work done during PS-II: My work was mostly focused on forming strategic partnerships and solving operational problems. I was given a very high level of ownership, which put a lot of responsibility and expectations on an intern, making it a very good learning experience. Hard skill development was present, but problem solving and stakeholder management are the two most important things I learnt from this internship. PS-2 was a great experience, as it provided a much needed exposure to the industry. I was about to work at close quarters with senior leadership as well as clients, and it did do a lot in developing my own problem solving skills.

Tool used (Development tools - H/w, S/w): Advanced Excel, SQL, Tableau.

Objectives of the project: To onboard new lenders on Rupeek platform, and manage the relationships with existing lenders.

Major learning outcomes: Stakeholder Management, Tableau, Problem Solving.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Rupeek as an organization is quite well structured, spanning multiple departments and huge manpower. It may be a bit overwhelming at first, but once you start working, cross functional teams appear to be a blessing. The mentors are nice and approachable, and are always willing to help out in case you are stuck in a rut. The work standards are quite high; work quality should always be up to the mark.

Academic courses relevant to the project: FOFA, CP.

Name: VISHWAJEET RAJEGHATGE (2018A4PS0554P)

Student write-up

Short summary of work done during PS-II: The internship was concentrated on driving different analysis initiatives in the customer vertical at Rupeek. The customer experience team is responsible for providing the best possible experience during and post the tenure at Rupeek. At the beginning of the internship, I had set several learning goals regarding the improvement of my knowledge and skills in Data Analysis. During the Practice School, several projects and tasks have contributed to achieving a number of goals. Firstly, I was given the opportunity to handle Auctions Workflow independently throughout its development lifecycle. The objective of the workflow was to increase the communication and information flow amongst affiliate channels. I also got an opportunity to work on other projects which were directed towards improving the user experience, implementing different analytics tools to gather data about user behavior and improving the product perception amongst customers.

Tool used (Development tools - H/w, S/w): Tableau, SQL Workbench.

Objectives of the project: Deriving insights from data and align the results in order to enhance customer experience.

Major learning outcomes: Tableau, Understanding of NPA accounts & Renewal and Releases.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: A lot of cross functional interaction, fast paced work and precision and accuracy expected.

Academic courses relevant to the project: FoFA.

Name: VRUSHAL CHAUDHARI (2018A4PS0825G)

Student write-up

Short summary of work done during PS-II: The day-to-day activities of a data analyst at Rupeek involves:
Live Tracking of ongoing transactions and making sure all metrics have been reaching the target.
Identifying defaulters and generating root cause analysis for the problem.
Using data of past transactions for analysing the major reasons for target failure.
Use data visualisation and weekly connect with city heads for their cities' performances, for giving feedback.
Connect with leaders and the Design team if any change in process is required and implement the change by contacting city heads.
My role as a data analyst for Rupeek started with engaging with Different stakeholders of respective sub teams of operations and building a sustainable relationship with them. I also went on field to see how transactions are carried out and to learn the difficulties faced by the field ops. I started using the data to find out reasons for non-accomplishments of target.
Very intuitive insights were drawn by just going on the field. Although, data analysis is the most crucial part as it gives a quantifiable measure value which can be worked upon and the projection can also be made showing the overall impact on the company's overall cost metric. The analysis was presented to the respective stakeholders and certain action items were assigned to everyone.

I was responsible for keeping constant follow up with all the action items with the respective SPOCS.

Tool used (Development tools - H/w, S/w): Excel, Tableau, Tableplus (SQL).

Objectives of the project: Bring in goodness of a certain cost metric of the company.

Major learning outcomes: Data analysis, data visualization, communication skills.

Details of papers / patents: Null

Brief description of working environment, expectations from the company: The work environment is good. Everybody is helpful but very busy. Senior executives are always in meetings and it is hard to get a meeting scheduled with any of them.

Academic courses relevant to the project: FoFA, CP.

PS-II Station: Rupifi Non-Tech, Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: SRISHTI ARYA (2018A1PS0817H)

Student write-up

Short summary of work done during PS-II: I have worked across different domains. I have been a part of projects which required insights from operations and collections point of view.

Primarily, I am the part of the growth team, and currently I am managing the customer support program.

Tool used (Development tools - H/w, S/w): Google sheets, advanced excel.

Objectives of the project: The objective of my current project is to improve the customer experience by streamlining the customer support process.

Major learning outcomes: Finance, business development, strategic communications, analytics, management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is extremely conducive to growth and learnings. Everyone here is very supportive and one gets to learn a lot from the people of the organization. The work is allowed to be done flexibly. The experience I got here surely adds a lot of value to my character and personality.

Academic courses relevant to the project: Negotiation skills and management.

Name: MANAN SONI (2018A4PS0722G)

Student write-up

Short summary of work done during PS-II: As a business development Intern, did the following:
Onboarding customers across 3 aggregator platforms – Swiggy, Flipkart and Dunzo.
Streamlining the business processes to reduce TAT.
Onboarded more than 700 customers across various aggregators.
Disbursed loans of ₹2,50,00,000 with DFL.
Co-ordinating with aggregators for Escrow Account Linking.

Suggesting changes to the application process to improve customer experience and reduce drop-offs.
Streamlining the business processes to reduce TAT.
Eliminated most of manual data entry processes across all aggregator platforms through various optimizations and automations.
Cohort Analysis – Built cohorts for multiple metrics like retention, utilization and transaction spread to identify customer behaviour across a particular platform.
Ad hoc Reporting for higher level meetings with co-founders and investors completely automated interactive dashboard with real time data that provides us consolidated view of utilization and growth across all the portfolios.

Tool used (Development tools - H/w, S/w): Google Sheets Automation, Power BI
Advance Excel – Building Interactive Dashboards
Full Story – User Experience
Leegality, Work flow customisation.

Objectives of the project: Business Development, Analytics and Product Management.

Major learning outcomes: Domain knowledge acquired: FinTech, more about Finance and Technology, Product Management, Business Development, Business Analysis.
Skills acquired: Google Sheets Automation, Power BI
Advance Excel – Building Interactive Dashboards
Full Story – User Experience
Leegality, Work flow customisation, Soft skills

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great learning experience.

Academic courses relevant to the project: Marketing Research, Principles of Economics.

Name: M SWADHI (2018A4PS1060H)

Student write-up

Short summary of work done during PS-II: My project domain includes analyzing the existing data with metrics such as turnaround time, approved/completed ratio so as to get a better picture of the scenario of the tie-up with the aggregator, and suggesting improvements and changes in the current organizational process flow so as to optimize and increase effectiveness. Also reducing the overall turnaround time. Automating manual entries, hence reducing the possibilities of error. Figuring out the pain points while onboarding the customers through conversion rate of each step and reporting the growth team.

Tool used (Development tools - H/w, S/w): Big Query, Google Sheets.

Objectives of the project: Automate and streamline process using google sheets and big query.

Major learning outcomes: Google Sheets Automation, Power BI
Advance Excel – Building Interactive Dashboards, Bid Query

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is pretty flexible and the company just expects you to complete a particular piece of work by the given deadline.

Academic courses relevant to the project: Engineering Optimization, Introductions to Object Oriented Programming.

Name: SUBHOJIT SAHA (2018A5PS0965P)

Student write-up

Short summary of work done during PS-II: I worked with the Growth Managers and helped them reduce the TAT of onboarding customers and getting them transacted by analyzing different datasets given to me from time to time. I also helped to onboard customers when and where needed, have called customers and in the process have understood what are their concerns and responses. During this tenure, I acted as a bridge between the operations team and the calling team to resolve pending cases across various anchors.

Tool used (Development tools - H/w, S/w): Google Sheets, Microsoft Excel.

Objectives of the project: To reduce the TAT of customer onboarding. To resolve pending cases across various anchors.

Major learning outcomes: I improved my communication skills along with managerial abilities, also learnt how to use various software like Leegality, SquadIQ and Google Sheets to name a few. Approaching new potential clients and turning them into our anchors.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: RUPIFI provided a great working environment. Despite the work being in online mode, regular interactions with the company members were insightful and there was a lot to learn from them. Everyone was supportive.

Academic courses relevant to the project: Engineering Optimization, OOP.

Name: KANWAR LOHITA NITIN (2018A5PS1080H)

Student write-up

Short summary of work done during PS-II: Eliminated most of manual data entry processes across all aggregator platforms through various optimizations and automations. Standardized credit trackers across all platforms and automated statement of accounts.
Utilization Tracker – A completely automated interactive dashboard with real time data that provides us consolidated view of utilization and growth across all the portfolios.
Collections Tracker – A completely automated interactive dashboard with real time data on daily/weekly/monthly resolution and risk analysis across all the anchors.
Cohort Analysis – Built cohorts for multiple metrics like retention, utilization and transaction spread to identify customer behaviour across a particular platform.

Tool used (Development tools - H/w, S/w): Google Sheets Automation, SQL, Advance Excel – Building Interactive Dashboards.

Objectives of the project: Setting monthly targets for the company and individuals based on the historic data Getting most of the work done without human intervention made it possible for Rupifi to maintain its performance levels and grow despite being short-staffed.

Major learning outcomes: Domain knowledge acquired: FinTech, more about Finance and Technology, Business Development, Business Analysis.
Skills acquired: Google Sheets Automation, SQL, Advance Excel – Building Interactive Dashboards, Soft Skills

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Rupifi is a Lending Service Provider platform that offers its product to customers through partnerships with other aggregators and lenders in the industry. Rupifi focuses on the lower end of the MSME (Turnover: 40 Crore-100 Crore) market, which accounts for over 80% of SMEs in India. Rupifi includes a number of APIs that make it simple to integrate with current systems and reconcile Automatic Deductions by aggregators as part of Credit Line Collections. Rupifi strives to reduce the time it takes for a customer to obtain a line of credit through its platform to less than 24 hours. The corporation was founded in January of 2020, and operations began in July of that year.

Academic courses relevant to the project: Principles of Management, Marketing Research, Negotiation skills and techniques.

PS-II Station : Rupifi Tech, Bengaluru

Faculty

Name: Chetana Anoop Gavankar g

Student

Name: MALLADI SPOORTHI SIRI (2017B4A70580H)

Student write-up

Short summary of work done during PS-II: My work falls under back-end development. API integration and creating several new features and optimizing the code with growing needs are major part of my work.

Tool used (Development tools - H/w, S/w): Spring Boot, PostgreSQL, Bitbucket, Swagger UI, Postman, IntelliJ Idea.

Objectives of the project: Creating backend services majorly related to onboarding.

Major learning outcomes: Gained knowledge regarding spring boot framework which eventually helped in writing the code efficiently. Object Oriented Programing and API Integration also improved.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mode was Work From Home. So, all the communications and meetings are done online .Mentors and team members are supportive and helpful, any kind of blocker will be resolved quickly. The overall work environment is satisfactory and they treat interns same as other team members, once we pick things up.

Academic courses relevant to the project: OOP, DBMS.

Name: PREEYAM SAHU (2018A7PS0191G)

Student write-up

Short summary of work done during PS-II: The primary objective was to enhance the user onboarding journey for the Rupifi product embedded across several ecommerce platforms and also work on other utilitarian tasks to aid the overall functionality of the backend of the product. The major project that I worked on was integrating OCR capabilities in the customer onboarding journey to allow Instant KYC without manual Inspection of Identification documents. This involved integrating OCR and Field Verification APIs and designing a sub system within the whole backend of the product that would allow seamless verification of User Data and tailoring the onboarding journey based on the results of the verification. Other small tasks involving day-to-day bugs were worked on which gave a look into various practical possibilities.

Tool used (Development tools - H/w, S/w): Amazon ElasticBeanStalk and S3, IntelliJ, Postman, PgAdmin4, Google App Script.

Objectives of the project: 1. Integrate OCR based Verification into the user onboarding journey for KYC 2. Work on Utilitarian tools in Google App Script and small Spring Boot Service to automate certain processes.

Major learning outcomes: 1. Gained great experience in working on a Backend Software Development Team

2. Learnt Java Spring Boot to work on building Microservices
3. Learnt PostgreSQL for managing the database and App Script for Sheets Automation
4.Used AWS Tools like S3 an ElasticBeanStalk for storing data and deploying microservices respectively

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was an extremely flexible environment wherein the degree of involvement and responsibility was greatly dependent on us. Personally I was involved in as many things as possible and found it to be a great learning experience. Colleagues here were helpful and guided us throughout our time there. Given the work from home scenario all discussions happened via Google meets / slack calls with a few regular scheduled meetings and any discussion sessions as necessary. The overall experience demanded a certain amount of dedication and discipline while still allowing an overall amount of comfort with regards to deadlines and process of work.

Academic courses relevant to the project: Object Oriented Programming, Data Structures and Algorithms, DBMS.

Name: NANDANAVANAM ARCHITH (2018A7PS0270P)

Student write-up

Short summary of work done during PS-II: Used AWS to implement DevOps methodology in the lifecycle of Apps creation.

Tool used (Development tools - H/w, S/w): AWS, Slack API.

Objectives of the project: Use AWS to implement DevOps methodology in the lifecycle of Apps creation.

Major learning outcomes: Learnt to implement the major services of AWS for practical purposes.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was pretty great. The company assigned mentors to everyone to guide and teach the required skills for the project assigned. We were asked to choose the subdomain we were interested to work in. Since the company was a start-up, the timings were pretty flexible. The only expectation was to complete the assigned tasks in the deadline which were lenient. The mentors were just a message/call away to clarify the doubts. All in all, it was a great learning experience.

Academic courses relevant to the project: OOPs, DSA.

PS-II Station: Samsung R & D Institute - Intelligence, Bengaluru

Faculty

Name: Lucy J. Gudino

Student

Name: HARSHIT JAITLY (2017A8PS0692G)

Student write-up

Short summary of work done during PS-II: The work was focused around building efficient hashing mechanisms for quick retrieval in a large scale and a high dimension database of Images. Anyone with some experience in computer vision must've come across image recommender systems. But the key focus here was designing a end-to-end system which could perform

recommendations to the end user from a very large-scale database for which normal retrieval techniques fail.

Tool used (Development tools - H/w, S/w): Python, Tensorflow, Keras, Flask, Docker, Numpy, Pandas, NGINX, Postman.

Objectives of the project: Content based Image Retrieval in Large Scale Databases.

Major learning outcomes: Designing commercially deployable end-to-end systems, Developing REST APIs, Image Recognition and Retrieval Systems, Content-Based Image Recommenders Retrieval Techniques for Large Scale Data.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was the best part about this PS station. Luckily, the team allotted to me and my manager and mentors were some of the nicest folks I've ever come across. Always ready to help and respond. Nothing is expected as a prerequisite from you, and they'll give you way more than enough time to get comfortable with the stuff you'll be working on. Initial 2 months is more about getting used to things and from there onwards the actual work begins. As long as you show some learning curve and progress there isn't much expected out you. The best thing about the station was undoubtedly it's work life balance. I can definitely say there isn't a station which can beat this in maintaining the best work life balance and having impactful work.

Academic courses relevant to the project: OS, CP.

Name: ANISH JAIN (2017B2AA1709H)

Student write-up

Short summary of work done during PS-II: My work was related to building CI/CD pipelines for the machine learning models and reduce their latency time majorly using Kubernetes microservices and docker images, to monitor the performance of different models which were deployed in pipelines. I also used Kubeflow for the hyperparameter tuning of the models and get the optimized model for the deployment.

Tool used (Development tools - H/w, S/w): Python, C, Kubernetes.

Objectives of the project: Building CI/CD pipelines for machine learning models.

Major learning outcomes: Got an understanding of inferencing, optimization of machine learning models and building CI/CD pipelines.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The exact work culture cannot be described as the entire duration of the internship was in a remote manner. The employees out there were very friendly and supportive in all fashion. Least to say, deadlines were decently decided mutually. Expectations to begin with, were to gain industry exposure on as to how organizations approach development of a software and SRIB has surpassed all expectations.

Academic courses relevant to the project: Operating Systems, NNFL, ML.

Name: TODARWAL DEVESH SANTOSH (2017B4A80518P)

Student write-up

Short summary of work done during PS-II: My work primarily was developing and fine-tuning speech recognition models. Initial assignments included research paper reading, implementation of various SOTA deep learning models for speech recognition. Post the completion of the initial

tasks, I worked on the production models for the upcoming S22 series in direct conjunction with the speech recognition team from HQ.

Tool used (Development tools - H/w, S/w): Python3, C++, Java, Tensorflow, BASH, PuTTY, TensorFlow Lite, Github.

Objectives of the project: Developing End-to-End ASR systems.

Major learning outcomes: Learnt how deep-learning models are developed on production / industrial basis.

Details of papers / patents: Filed for a patent on "User Profiling and Personalization in Multi-user Environment".

Brief description of working environment, expectations from the company: I was a part of the speech team. My peers and mentor were extremely supportive and helped out a lot with the learning process despite the online nature of the internship. Outside of the team, the companies work policies were rigid and as a direct result, even the simplest of approvals sometimes took days to process.

Academic courses relevant to the project: BITS F312 NNFL, CS F372 Operating Systems.

Name: RIYA BHANDARI (2017B4A80773P)

Student write-up

Short summary of work done during PS-II: • Big data ETL pipelines using Pyspark to do Data Wrangling and analysis on mobile user data (60K users).
• Spark query performance optimization: Analysing the spark query plans to reduce shuffling and redundancy.

• Exploratory data analysis and integrity testing to analyze user behaviour and investigate abuse incidence.

Tool used (Development tools - H/w, S/w): Spark, Pyspark, Python, Pytest.

Objectives of the project: Mobile usage data analysis.

Major learning outcomes: Big Data Management using Spark and reducing the shuffling.

Details of papers / patents: No papers / patents

Brief description of working environment, expectations from the company: Due to the pandemic, everything was online. Daily stand up meets are scheduled with the project team to discuss the work progress as well as further tasks. Company hours are flexible and you can work at whatever time you are comfortable with. Sometimes it becomes hectic and sometimes it is easy going. Managers are very understanding and they help you whenever required.

Academic courses relevant to the project: Machine learning.

Name: ANUBHAV AHLAWAT (2017B5A30005G)

Student write-up

Short summary of work done during PS-II: I worked on 2 projects:
1) The first project was primarily android development with work on components like PIP mode, broadcast receivers, services and frontend components.
2) The second project was building a gradle plugin for combining 2 or more AARs into one fat AAR.

Tool used (Development tools - H/w, S/w): Android Studio, Gradle.

Objectives of the project: 1) Improving already existing apps by adding new features to them. 2) Building a gradle plugin to handle project dependencies efficiently.

Major learning outcomes: I was able to learn android studio and gradle from scratch.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment of the company was good. The team seniors were helpful and ample time was given to learn new concepts and work on the projects.

Academic courses relevant to the project: Object Oriented Programming.

Name: RAINA BANERJEE (2017B5A30777G)

Student write-up

Short summary of work done during PS-II: 1. Project 1 : Changing existing home surveillance app backend to support peer to peer communication to save bandwidth.
2. Project 2 : Compiling and testing the LF Edge project for Linux by deploying various modes using docker containers, mainly via terminal.

Tool used (Development tools - H/w, S/w): Java, Android Studio, Docker.

Objectives of the project: 1. To build WebRTC data channel 2. To test the LF Edge software.

Major learning outcomes: 1. Introduced to Android app development 2. LF Edge is open source so learned using GitHub 3. Working with Linux terminal, docker, .yaml and .toml files etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: You can work at your own pace.

Academic courses relevant to the project: Object Oriented Programming.

Name: SAGAR KAUSHIK (2017B5A30912P)

Student write-up

Short summary of work done during PS-II: My team was trying to see if federated learning (FL) can be used for predicting user demographic information, namely age and gender of the user, from apps installed on user device. Federated learning is a technique where model training happens on the edge device and instead of sending and collecting data, model updates are aggregated by the central server.

I helped in FL simulation using TensorFlow Federated (TFF) and compared the results with the conventional neural network training for user age and gender prediction. Then I also added differential privacy in the aggregation process for more privacy.

I also used various ML algorithms from Scikit-learn library, and recorded their performances, size and time taken. Later I was asked to benchmark the FL framework created for Samsung by another team for age and gender prediction task. Finally I had to carry out a set of experiments on MNIST dataset to assess TFF and report the results to my mentor.

Tool used (Development tools - H/w, S/w): Python, Scikit-learn, PySpark and TensorFlow Federated.

Objectives of the project: User demographic prediction using Federated Learning.

Major learning outcomes: - Got to work on big data using PySpark and apply different ML algorithms from sklearn library.

- Learnt and used privacy preserving ML systems, namely federated learning and differential privacy.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: Experience of working at SRIB depends highly on the team you are allotted, and that is done randomly so you can't do much about it. Some students did not get much work for the whole duration and others, including me, had a good learning experience. I believe this was in part due to WFH situation.

I was part of the Data Intelligence Lab and my team was already working in federated learning (FL) when I joined. My mentor asked me to do a literature review of current research in FL for the first month and later give him a list of topics I would like to work on. I decided to work on privacy preserving FL and help the team with addition of differential privacy in their user demographic information prediction experiment. Later I was also asked to do the simulations which the South Korean HQ had requested and they trusted me to do the job right.

All the team members were very helpful and welcoming. They expected me to work on my own project and also assist the team in whatever relevant work cropped up in between. But doing your job properly does NOT guarantee a PPO here because Samsung has their own hiring process for interns similar to placements (coding test + mentor review -> interview).

In a nutshell, SRIB as PS: - Looks good on resume

- You get to work on new tech
- If you don't get much work, you can prepare for placements

Academic courses relevant to the project: Neural Networks and Fuzzy Logic.

Name: SARTHAK SINGH (2017B5A30916P)

Student write-up

Short summary of work done during PS-II: I joined Samsung R&D in Visual Intelligence Department as a part of Medical and Multimedia Streaming team.In the first couple of weeks, I went through the existing projects going on in my time and the new problem that was allotted. I designed and developed a data pipeline for automated stream selection and integrated it both front-end and server side.

Tool used (Development tools - H/w, S/w): Python , C++, Java, Java Script, Git.

Objectives of the project: Automated Stream Selection using Computer Vision and Media Servers.

Major learning outcomes: Data pipeline creation and integration. Developing and analyzing algorithms based on our use case. Got to work with new technologies and learnt best coding practices.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The environment was good. I had a manager and a mentor, and had meetings with my mentor everyday. We had a daily stand-up, where we had to give updates about the previous day's work, and share our plan for the day. Occasional talks and meetings were held by the senior management.
Expectations from the company: This depends on your team. There weren't long working hours and the timings were flexible.

Academic courses relevant to the project: Object Oriented Programming, Data Structures and Algorithms, NNFL, Pattern Recognition.

Name: ISHAN MANGOTRA (2017B5A80903P)

Student write-up

Short summary of work done during PS-II: Worked on a synthetic data generation pipeline to generate paired image dataset. Evaluated the performance of the dataset on different machine learning models. Worked on video noise detection and denoising solutions.

Tool used (Development tools - H/w, S/w): Python, Pytorch, Tensorflow

Objectives of the project: To prepare and evaluate the performance of synthetic image data generation pipeline.

Major learning outcomes: Learnt about deep learning concepts and various image processing techniques.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Team members and managers are very helpful and keep on guiding constantly. Working environment is good but there is no fixed work timings. Sometimes, you are expected to work even after official working hours.

Academic courses relevant to the project: NNFL, Machine Learning.

Name: SARVESH GUPTA (2018A3PS0337G)

Student write-up

Short summary of work done during PS-II: Enhancement of LTE module.

Tool used (Development tools - H/w, S/w): Python, C++.

Objectives of the project: Enhancement of LTE module.

Major learning outcomes: VoLTE, Python.

Details of papers / patents: No

Brief description of working environment, expectations from the company: Nice working environment, working hours less than 8 hours.

Academic courses relevant to the project: MTN.

Name: YASH GULATI (2018A3PS0347P)

Student write-up

Short summary of work done during PS-II: I had to work on maintenance and upkeep of a System Level Simulator which emulated real-world traffic and mimicked MAC layer functionalities as part of the Beyond 5G team. I worked on adding more functionalities to the SLS. I also worked on a RL based scheduler which used Proximal Policy Optimization in a actor critic configuration to schedule the network packets on a priority basis. I further also helped with testing of other models of the team and unit testing for code coverage of the functionalities defined in SLS.

Tool used (Development tools - H/w, S/w): We were given a VDI by SRIB inside which we had to perform all the operations. We requested for a Linux VM inside the VDI for smooth development. The work revolved around Python, JAVA, Tensor Flow and pandas inside the PyCharm and IntelliJ IDEs.

Objectives of the project: To define a RL based stochastic scheduler that optimized many conflicting objectives.

Major learning outcomes: I learnt a lot about handling a large codebase, written by multiple people and being worked on by multiple people. Learnt a lot about common software development practices, RL, 5G MAC, Physical layers etc. I also learnt a lot about patience and communication and organizational ethics.

Details of papers / patents: NA.

Brief description of working environment, expectations from the company: The working environment is pretty chill. You can expect some free time on your hands which can help you to learn things you wanted to. The manager had no hard deadlines with me, but then again it is a research company and not a product one.

Academic courses relevant to the project: Communication Systems.

Name: DAKSH DAVE (2018A3PS0391P)

Student write-up

Short summary of work done during PS-II: Built a Knowledge Graph based App Recommender system.

Tool used (Development tools - H/w, S/w): Colab, Python, Jupyter Notebook, JavaScript, Pykg2vec, Numpy, Pandas Scikit, npm, Git.

Objectives of the project: Publish a research paper.

Major Learning Outcomes: Knowledge Graph, GNN's, Data Augmentation Deep Learning Techniques, Recommender Systems.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment is chill and you are expected to work for 6 hours daily at your preferred time it can shoot up if your tasks are pending but overall the work is pretty decent and gets completed in the allotted time. Saturday and Sundays are off. You would enjoy working here.

Academic courses relevant to the project: The academic courses that were relevant to the subject are OOP, CP.

Name: YUVRAJ SINGH MALHI (2018A8PS0813P)

Student write-up

Short summary of work done during PS-II: Worked on 2 projects and one open sourced contribution. The first project was on detection of system anomalies using logs and machine learning. The second project was on creating a novel and specialized mechanism for Samsung's systems that detects anomalies using system background information such as CPU usage, CPU temperature, RAM usage etc. The open sourced project was on the Border Gateway Protocol (BGP) stack of FRR. The aim was to incorporate optimal route reflection (ORR) in the existing BGP library of FRR.

Tool used (Development tools - H/w, S/w): C, C++, Python, Shell.

Objectives of the project: Designing system anomaly detection mechanism.

Major learning outcomes: Sharpened my C++ and python skills by writing long codes during the internship. Also understood how to read, survey, and extract useful information from research papers.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great manager, boss, and colleagues. Very responsive support team as well. Timing for interns was flexible and no minimum compulsory working hours are required. Chance to sit for PPO is given to everyone and manager feedback is also taken into account.

Academic courses relevant to the project: Network Programming, Computer Programming, Machine Learning.

Name: ABHISHEK KUMAR (2018A8PS0890G)

Student write-up

Short summary of work done during PS-II: I worked as a researcher with the beyond 5G team where I along with the team worked on study-oriented research about AI/ML in 5G. The project mostly covered how AI helps in achieving what 5G aims to provide i.e. low latency and high-speed internet. It involved the potential use of AI to improve data throughput through the existing infrastructure and multiple other use cases proposed by researchers all around the globe.
The second project was based on the front-end development of an internal tool where I used JSX, JavaScript, Material UI to add UI elements to the internal tool.

Tool used (Development tools - H/w, S/w): Python, JSX, JavaScript, 3GPP.

Objectives of the project: The main project was study-oriented research focusing on Artificial learning, Machine Learning in the field of wireless communication especially in the domain of 5G. The second project was based on front-end development.

Major learning outcomes: Reading papers, writing efficient code, learnt various dynamic NN, 5G, AI, working in a team and soft skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great working environment . Projects are research oriented and mentor gives sufficient time to complete the tasks. People are generally helpful , you can ask any type of doubts anytime.

Academic courses relevant to the project: SAS, CP, DSA, AI, ML.

Name: BANDARU BINDU (2018AAPS0400H)

Student write-up

Short summary of work done during PS-II: Until mid semester, I was given the System Level Simulator (SLS) developed in MATLAB to do an extensive code study. After the code study, I prepared a readme / user guide for the SLS. After mid semester, I was added to a project where I had to optimize and debug one complete module to reduce its runtime without any change in its functionality and output through various techniques like vectorisation, parallel computing tools, restructuring of the code etc.

Tool used (Development tools - H/w, S/w): MATLAB.

Objectives of the project: The objective was to optimize the runtime of SLS simulator which was developed in MATLAB.

Major learning outcomes: I had learnt about how the wireless cellular systems are studied and further enhanced with the help of MATLAB system level simulators. I also learnt about the 3GPP and how the specifications for various communication systems are developed. Since the project was completely on MATLAB, I learnt various techniques of optimization and coding in the MATLAB software.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was allotted to Beyond 5G team. The entire team was very supportive and guided me throughout the project in a way that along with contributing to the project, I had a vast learning about 3GPP and wireless communication systems, particularly 5GNR. Since the PS was completely WFH mode, I cannot comment on how WFO experience would be. The WFH was smooth, didn't face any technical issues while working.

Academic courses relevant to the project: C programming, Communication Networks, Communication Systems.

Name: V ABHINAV SAI VENKAT (2018AAPS0451H)

Student write-up

Short summary of work done during PS-II: Learnt OpenCV Library, Familiarized myself with the work my team was doing and was given several research papers to study. My main objective was to write the code for Nona Image Demosaicking ,I had to rewrite the code written in MATLAB to C++. Then I had to make changes to the code to fit it to Nona Images.

Tool used (Development tools - H/w, S/w): OpenCV, Visual Studio, MobaXTerm, Git Version Control.

Objectives of the project: Nona Image Demosiacking.

Major learning outcomes: Demosiacking, Working with OpenCV.

Details of papers / patents: NONE

Brief description of working environment, expectations from the company: The entire setup was virtual, we were told to install a Samsung made Virtual Machine to access our work computer. There were weekly meetings to update progress of project with manager and to clarify any doubts I had. The pace of the work was moderate and I prepared for placements simultaneously.

Academic courses relevant to the project: Digital Image Processing, Machine Learning, Computer Graphics and Computer Vision.

Name: V ABHINAV SAI VENKAT (2018AAPS0451H)

Student write-up

Short summary of work done during PS-II: I have explored several existing demosaicking algorithms, read through their code in MATLAB and replicated them in OpenCV/C++. Then I modified one of these algorithms to work Nona Images.

Tool used (Development tools - H/w, S/w): Visual Studio, MobaXterm, OpenCV, C++.

Objectives of the project: To develop a demosaicking algorithm for Nona Image.

Major learning outcomes: Demosaicking Algorithms, Software Development Cycle, Git Version Control, Linux.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: Since the entire PS was online, we had to work in remote desktops which were provided by samsung, I had weekly reports, meetings and midsem,final reports and presentations.

Academic courses relevant to the project: Digital Image Processing, NNFL, Computer Vision, DSP.

Name: PADHARTHI SAI SRIDHAR (2018AAPS0472H)

Student write-up

Short summary of work done during PS-II: I learnt about various ML techniques in the first month and I had worked on a basic denoising network which was based on UNET architecture for the next 2 months and I finally worked on a complex denoising network in the end.

Tool used (Development tools - H/w, S/w): Tensorflow, Anaconda, JupyterNotebook, MobaXterm.

Objectives of the project: Denoising using a CycleISP architecture.

Major learning outcomes: Deep Learning, Tensorflow.

Details of papers / patents: None

Brief description of working environment, expectations from the company: I had to work online using a Remote access Virtual Desktop from samsung. The pace was moderate and the team members were so supportive. I had a decent progress every week and I had to update that in the weekly team meetings.

Academic courses relevant to the project: ML, NNFL, AI, DIP.

PS-II Station: Samsung Semiconductor India R&D Center-Hardware, Bengaluru

Faculty

Name: Rekha A

Student

Name: PALASH CHOWDHURY (2017B1A80427P)

Student write-up

Short summary of work done during PS-II: Applied AMBA protocols and used formal verification to verify the designs.

Tool used (Development tools - H/w, S/w): JasperGold, System Verilog.

Objectives of the project: Formal Verification.

Major learning outcomes: JasperGold Softwares.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Mentors are there to help you out and they give you ramp up session for 2-3 months to understand the process and how to do work in that field.

Academic courses relevant to the project: Digital Design, Microcontroller and Processor.

Name: KALI PRASAD SWAIN (2017B4A80586P)

Student write-up

Short summary of work done during PS-II: Understanding the working of sync and async FIFOs, researching about scandmp analysis in brief, and the study of debug and trace systems using CoreSight architectural peripherals and its advantages in market standards.

Tool used (Development tools - H/w, S/w): Verilog, Python3.

Objectives of the project: Understanding debug systems of SoC.

Major learning outcomes: Scandump analysis, CoreSight architecture, Debug and trace.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Helpful and team-focused on learning.

Academic courses relevant to the project: Expanded upon theory taught.

Name: MUKUL SINGLA (2017B5A30714P)

Student write-up

Short summary of work done during PS-II: I was a part of the memory solutions, hardware team. The work involved verification of the storage controller module. My task involved understanding the various protocols with which the storage controller handles data sent by a host device. Like the UFS Transport Protocol, AXI/AHB protocols. The work involved developing and modifying test benches to verify design changes. These test benches were written using UVM libraries. It also gave exposure to various technologies which are used in memory modules, like RPMB, CRC etc. Gained hands-on experience with debugging and rectifying design/testbench errors.

Tool used (Development tools - H/w, S/w): UVM, SystemVerilog, Perl.

Objectives of the project: Verification of storage controller design.

Major learning outcomes: Development of testbenches, verification techniques, storage controller design.

Details of papers / patents: None

Brief description of working environment, expectations from the company: There is ample opportunity to learn. The team members have very good technical and practical knowledge and are always willing to help. You will be treated as a regular employee and be trusted with important project work. There is enough initial time to learn and as the PS progresses more work will be given, and accordingly our performance is evaluated.

Academic courses relevant to the project: Digital Design, Microprocessors, Computer Architecture.

Name: SAKTHIVELAN KARTHIKEYAN (2018AAPS0318G)

Student write-up

Short summary of work done during PS-II: The project started with a few weeks of training which involved understanding underlying architecture and workflow of the system. Tasks were allotted involving coding testcases for certain scenarios and executing them on a testbench via the regression process. A separate project involved improving existing in house scripts for regression analysis and a GUI for the same.

Tool used (Development tools - H/w, S/w): Systemverilog, Cadence, Synopsys, Python.

Objectives of the project: (1) Work on functional coverage - modelling and reporting (2) Automate post regression analysis using Python and create a GUI for the same.

Major learning outcomes: PCIe protocol, Systemverilog and its applications in design verification, Real-world application of Python scripts to automate tasks.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Initially there was quite a bit of delay before the onboarding process started. However, once the onboarding was done, things set off very smoothly. I was in constant touch with my mentor and the other team members throughout the entire project. The project was flexible yet had well-defined deliverables to create lasting impact.

Academic courses relevant to the project: Digital Design.

PS-II Station: Samsung Semiconductor India Research -Software, Bengaluru

Faculty

Name: Anita Ramachandran

Student

Name: SHREYAS KULSHRESTHA (2017B3AA1091H)

Student write-up

Short summary of work done during PS-II: Was assigned to Parse SIP messages and it was up to me which techniques to use. I explored multiple ways, and eventually used Regex, but despite its easy-to-look code output, the time complexity was exponential due to it been a recursive decent algorithm. I was then encouraged by my mentors to look at parser generators, with which I was able to generate parsers for particular sip messages which completely automated the program parsing.

Tool used (Development tools - H/w, S/w): Visual Studio Code, Regular Expressions, Parser Generators.

Objectives of the project: Being able to find a way to Parse SIP messages, lowering time and space complexity as had been implemented in a line-by-line parser already by the company.

Major learning outcomes: Parsing algorithms, Compiler Design, Regular Expressions, Parser Generators.

Details of papers / patents: No papers were published during the internship.

Brief description of working environment, expectations from the company: Being WFH, the work environment is subject to the amount of effort the person puts in. Regular meetings and

presentations were conducted by the mentor assigned to me. There was constant interaction with the company and valuable feedback was given during the course of my internship.

Academic courses relevant to the project: Compiler Design, OOPS, DSA.

Name: AKUL A BADAMI (2017B4A30571G)

Student write-up

Short summary of work done during PS-II: Worked on writing scripts for 5G NR Rach procedure logs on samsung indigenous tools.

Tool used (Development tools - H/w, S/w): Samsung indigenous tools and software.

Objectives of the project: To write script as per the requirement of the team.

Major learning outcomes: Learnt and implemented code and did problem solving.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It was completely online. Mentor and manager were friendly and helpful. Was flexible with deadlines and working hours.

Academic courses relevant to the project: C programming.

Name: RAJ AARYAN (2017B4A80753P)

Student write-up

Short summary of work done during PS-II: My work revolved around controlling read and write feature by controlling the sublayer of Flash Translation layer. During my initial days I was trained on pre existing Firmware and introduced to the bottlenecks in Firmware. Later part of Internship was focused on contributing to next generation of Firmware and write optimal code for the same.

Tool used (Development tools - H/w, S/w): Samsung proprietary tools, VS Code, MS Visio, Bit Bucket.

Objectives of the project: Contribution to the Firmware commercial product.

Major learning outcomes: In depth knowledge of Firmware, Contribution to next generation Firmware.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: Work life Balance is decent. As the project are Industry centric and technology used are proprietary to organization, Company doesn't expect anyone new in that domain to have those specific knowledge but as someone is supposed to understand and contribute on large codebases ,you are expected to have decent idea and practice for the OOP, DSA, CP and possibly OS.

Academic courses relevant to the project: OOP, OS, DSA, CP.

Name: ARIHANT GARG (2017B4A81127H)

Student write-up

Short summary of work done during PS-II: As part of the Firmware Test team, I worked on the verification of Universal Flash Storage (UFS) firmware, reviewing some existing testcases and contributing a new one.

Tool used (Development tools - H/w, S/w): Source Insight (code editor).

Objectives of the project: To verify the working of Universal Flash Storage version 3.1 firmware as per JEDEC specifications.

Major learning outcomes: I learnt about flash memory, UFS and how software is tested and debugged.

Details of papers / patents: NA.

Brief description of working environment, expectations from the company: Entire duration was in work-from-home mode.

Academic courses relevant to the project: Electronic Devices (INSTR F214).

Name: AKSHAT SUKHDEO TIWARI (2017B4AA1474H)

Student write-up

Short summary of work done during PS-II: There are multiple conglomerates like Samsung, Qualcomm, Nvidia, etc. working to develop the best chips for seamless 5G use in devices. So the main objective of the project is to create a windows application framework to check the performance of these chips with respect to other chips using predefined Key Performance Indicator metrics.

Tool used (Development tools - H/w, S/w): Visual Studio Code, Python, Android debug bridge.

Objectives of the project: There are multiple conglomerates like Samsung, Qualcomm, Nvidia, etc. working to develop the best chips for seamless 5G use in devices. So the main objective of

the project is to create a windows application framework to check the performance of these chips with respect to other chips using predefined Key Performance Indicator metrics.

Major learning outcomes: Python, GUI development, ADB Commands, Batch Scripting.

Details of papers / patents: None

Brief description of working environment, expectations from the company: My team, right from the manager all the way to my immediate seniors have been incredibly easy to reach out to, comfortable to talk to, and helpful in every step of the way. I got a glimpse of how well-equipped overall the world's leading companies have to be to reach the zenith. I became acquainted with how the firm keeps the employees and clients well informed with every detail on the products all the while saving thousands of man hours by automating the processes and improvising the existing frameworks. On the technical front, I have got a lot of coding experience from this on how to work with objectoriented data and code in a systematic way and be more efficient. Through each task, I learnt what coding concept was being utilized, how I could use tools like Python or Excel to handle numbers and figurative information and finally create a presentable product as per the request.

Academic courses relevant to the project: DSA, OS, Communication Networks, Communication System.

Name: GAURAV KHANDIGE (2017B5A30558G)

Student write-up

Short summary of work done during PS-II: Ported acoustic echo cancelation algorithm using Speex audio codec onto the HiFi DSP for use in vehicle infotainment systems. Researched about ALSA and firmware required for initializing DSP in SoC.

Tool used (Development tools - H/w, S/w): Xplorer, XTOS and XOS by Cadence.

Objectives of the project: Acoustic Echo Canceller for vehicle infotainment system.

Major learning outcomes: Porting audio codec and aec algorithms to dsp, audio processing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home. Mentor and manager very cordial and friendly and helped whenever needed.

Academic courses relevant to the project: Embedded systems, OS, DigiComm.

Student

Name: AGRAWAL AYUSH ROMI (2017B5A30720G)

Student write-up

Short summary of work done during PS-II: The aim of my team was to reduce the time lag between receiving hardware and developing the software to run on it. Using QEMU, we emulate the behavior of the desired hardware and the operating system that is going to be used. This emulation is done so that the clients do not have to wait for the controller hardware to be physically delivered before they can start developing the firmware for it. This helps in saving time and reducing costs as we can address any bugs or errors much earlier.

Tool used (Development tools - H/w, S/w): Software- Linux, VSCode, C/C++.

Objectives of the project: Emulating memory device behaviors to test firmware.

Major learning outcomes: Architecture of memory, memory controller interaction with software, libraries in C++.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very friendly work environment. Even if I try to nitpick, there is nothing to complain about. The team members were fully supportive in every way. They were always available and helped out in every way possible. Everyone is respectful of one another regardless of seniority.

Academic courses relevant to the project: Computer Programming.

Name: SARTHAK CHOWDHURY (2017B5AA0909H)

Student write-up

Short summary of work done during PS-II: Modifying existing applications for testing new ML models using new delegates.
Performance testing and analysis of the same.
Reading and learning about delegates.
Hands on experience with linux test pc's and testing android applications via adb in it.

Tool used (Development tools - H/w, S/w): Android Studio, Java, Linux.

Objectives of the project: The objective of the project was to modify the existing android application and implement new ML models for image classification in the android application and also import and implement new delegates. Then do a performance comparison of the different ML models with different delegates and draw a comparison.

Major learning outcomes: I learnt more about android application development, more at a lower level, more focused on importing new packages and implementing new models, and getting an in-depth application of OOP. I learnt to work on Linux systems and command-line interface and perform testing and filtering logs there as well as a good exposure to adb and how it works in bootloader, fastboot, how images are flashed, etc. I also learnt about Delegate, how they work and what they do.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good people, ready to help whenever you're stuck.

Academic courses relevant to the project: OOP.

PS-II Station: Saras Analytics – Non-Tech, Hyderabad

Faculty

Name: Naga V K Jasti

Student

Name: SHREYANSH JAIN (2017B4A20683P)

Student write-up

Short summary of work done during PS-II: For the initial month I was required to work on daily maintenance and reporting. I was expected to automate these recurring tasks using open source tools available. I had to work on Daton (which us an in-house tool). There was an expectation to carry tasks like re-modelling the whole data architecture which was not feasible in the time-frame of PS.

Tool used (Development tools - H/w, S/w): Google Analytics, Google BigQuery, SQL, Python, MS Excel, Daton, Statistical Analysis.

Objectives of the project: Automation of various recurring activities.

Major learning outcomes: The time spent at Saras Analytics helped me improve my communication skills, one might be required to attend calls with their overseas clients and handle their requests. I did learn SQL and Python which are key learning tools for an analyst. There was focus on other in-house tools as well. Overall, the learning experience was great but there was an inclination over daily recurring tasks.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company has a very employee friendly where the team members are really supportive. There were expectations to perform tasks requiring far more level experience (such as re-modelling the whole data-architecture) but there was no pressure. The working hours were quite challenging for the full time employees and for interns also they were a bit hectic. The company has a good environment.

Academic courses relevant to the project: Foundations of Data Science, Database Management Systems, Statistical Inference.

PS-II Station: Sattva Media & Consulting Pvt. Ltd. , Bengaluru

Faculty

Name: Glynn John

Student

Name: ANIRUDH P (2018A3PS0382P)

Student write-up

Short summary of work done during PS-II: 1. Facilitating client onboarding & program management in 'Shift', Sattva's in-house program management product.
2. Analyzing CSR project data & creating visualizations to assess financial & impact data.
3. Any other basic data analysis related work on an ad-hoc basis.

Tool used (Development tools - H/w, S/w): 1. Zoho Analytics 2. Google Analytics 3. Excel.

Objectives of the project: Monitoring social impact through data analytics for Shift-related projects at Sattva, & delivering customer success.

Major learning outcomes: 1. Deep exposure to major social-impact delivering projects (mostly CSR) & their data.
2. Experience in analyzing data & building visualizations.
3. Extensive communication & teamwork is required; thus these skill areas get furnished.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is very friendly, encouraging & supportive. The manager & team leads are ready to help & address queries at any point of time. The company expects the intern to show interest in impact-related projects, & also have a basic understanding of data analytics (or at least be willing to learn quickly).

Academic courses relevant to the project: DBMS.

PS-II Station: Scienaptic Systems Pvt. Ltd., Bengaluru

Faculty

Name: Anindya Neogi

Student

Name: ARKA NAYAK (2018A7PS0159G)

Student write-up

Short summary of work done during PS-II: Product management of credit underwriting business rule engine, competitor and market analysis to look for trends and product features, end to end product feature integration through engagement with the engineering team and external team, client POC projects and client trainings, bank statements labelling for BS parser.

Tool used (Development tools - H/w, S/w): Internal Business Rule Engine software, Excel, PowerPoint, Word, Sheets, Docs, GitHub.

Objectives of the project: Product Management of Credit Underwriting Business Rule Engine.

Major learning outcomes: Professional Communication, Project Management, Product Management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very friendly environment, was treated as an integral team member and given chance to work on major projects and take charge of them. Mentor focused on my learning and development.

Academic courses relevant to the project: Principles of Management, Foundations of Data Science.

Name: SURYANSH SINGH RAWAT (2018A8PS0021G)

Student write-up

Short summary of work done during PS-II: Worked on creating Credit Risk underwriting models using Machine Learning. These models are used for creating scorecards for various clients such as credit unions and banks to improve their credit lending decisions.

Tool used (Development tools - H/w, S/w): Jupyter Notebook

Objectives of the project: My project involved the enhancement of credit underwriting process by reducing the redundancy of modelling process for individual new clients.

Major learning outcomes: Before this Internship, I had no clue about how the Banking Industry works and on what parameters they sanction the loan to their applicants. After researching and working on datasets provided by the clients, I got to know the types of datasets used and the variables involved in deciding the credit worthiness of an applicant. Along with that, I also got to know the different approaches that are used to model the data using Machine Learning efficiently.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is amazing since the people we work with are damn chill. Got to learn a lot from coworkers. Apart from that the Inters also gets the opportunity for an onsite business trip for which all expenses are paid by the company.

Academic courses relevant to the project: Data Science, Machine Learning, Finance Knowledge.

PS-II Station: ShortHills Tech Pvt. Ltd., Gurugram

Faculty

Name: Sandeep Kayastha

Student

Name: NIKHIL KHARBANDA (2017B5A11564H)

Student write-up

Short summary of work done during PS-II: My projects at Shorthills Tech were mainly centered around fine-tuning Text-to-text ML models for the specific purposes of the organization. One of the important projects was to create an auto-summarization model for outputting quick summaries of amazon reviews. I tested multiple models like T5, DistilBart, Pegasus Paraphrase and Pegasus Summarizer. Pegasus Summarizer worked best as a baseline model. I fine-tuned Pegasus model using Pytorch on organization's Google Colab. I also created a data annotation tool for the organization to help with labelling purposes of the Data team and deployed it on AWS.

Tool used (Development tools - H/w, S/w): MS Visual Studio Code, Google Colab.

Objectives of the project: To implement Machine Learning models and apply frameworks to fine-tune them for producing desired output.

Major learning outcomes: I learnt how to use various ML libraries and frameworks and implementation of models for further use by others.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My internship was fully work from home and the software team was very helpful regarding any queries and snags I ran into, while learning Machine Learning. The pace of work was fast and required extra effort especially when you're not an expert at programming.

Academic courses relevant to the project: Data Science.

Name: AMAL. A (2018A3PS0446P)

Student write-up

Short summary of work done during PS-II: Worked on a data annotation tool for labelling. Made a chrome extension to increase speed and convenience of data collection. Made a javascript based scrapper faster than existing python based scrapper. Worked on making python programs that used transformers to get required outputs.

Tool used (Development tools - H/w, S/w): Javascript, JSON, Django, Python, Django REST, Selenium, Label Studio.

Objectives of the project: Increase speed and convenience of data collection.

Major learning outcomes: Learned about Django, data collection methods, data labelling.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good working atmosphere, friendly and very much helpful mentors.

Academic courses relevant to the project: Data Science.

PS-II Station: SiA Digital Consultancy India Pvt. Ltd., New Delhi

Faculty

Name: Bharathi R

Student

Name: NIBIR MAHANTA (2018A5PS1101H)

Student write-up

Short summary of work done during PS-II: I had worked closely on Competitive Intelligence, gaining necessary knowledge as well as valuable experience from the said work. Gained in depth knowledge of how the pharma industry works, from clinical trials spanning over a decade, to FDA approvals and Patents. Much exploration was done in terms of rare diseases, orphan drugs, patents and their extensions, FDA approvals and how can they be made faster, etc. Gathering of information is very crucial to the CI market, and I was able to gain valuable in hand experience on the ways they are done, through Primary as well as Secondary Research. Primary Research is done through seminars and conferences, Personal interactions with researchers and other significant KOLs. Whereas secondary research is done by looking into databases, earnings reports, corporate presentations, etc. All this said info is then processed in a systematic and analytical manner to draw up conclusions about any said scenario, giving the company with not only market information but also valuable insights into the future.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: Competitive Intelligence and its Tools.

Major learning outcomes: Provided basic insight into the work dynamic of the pharmaceutical industry.
How Primary and Secondary Market Research are conducted to gain valuable information on the past and present market.
How to perceive said information in an analytical and systematic manner, drawing up valuable insights from them about the future, of the market as a whole or even a single product.
Proper way of communication and coordination with colleagues, seniors as well as clients.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment was very good and friendly. Colleagues and Seniors were very supportive and

always ready to guide whenever necessary. The amount of work assigned was also extremely comfortable, never have I ever felt overworked or anything as such in particular. The workspace was also very well coordinated and fluent despite most of the work being have to be done on an online basis.

Academic courses relevant to the project: Pharma CDCs, PoM, FOFA.

PS-II Station: Siemens PLM Software, Pune

Faculty

Name: Sudeep Kumar Pradhan

Student

Name: SAI SOURISH VENKATESH (2018AAPS0344H)

Student write-up

Short summary of work done during PS-II: My project was to study the Coverity static code analysis tool and their proprietary CodeXM language and use it to come up with a custom code checker that would be able to detect occurrences of certain English strings that may have been hardcoded in C++ files. I had to automate the entire process of classifying some XML files, extracting the problematic strings from them and using the strings to create the CodeXM checker.

Tool used (Development tools - H/w, S/w): Python, Coverity Static Code Analysis tool, Java

Objectives of the project: Detect instances of hardcoded English strings in C++ files that prevented translation of the program's UI to other languages

Major Learning Outcomes: Working in an agile environment, python, static code analysis

Details of Papers/patents: NA

Brief Description of working environment, expectations from the company: I was part of a scrum that worked on the testing and maintenance of our product. We had meetings every morning and at the end of each day to discuss what each of us would work on and then review if we met our goals. My mentors were very helpful and I did not lack assistance at any point during the course of the internship.

Academic courses relevant to the project: CS F111

PS-II Station: SImply Vyapar Apps Pvt. Ltd., - Non-Tech (New), Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: KARTIK KHANDELWAL (2017B1A10811G)

Student write-up

Short summary of work done during PS-II: During my internship, my role was as a Product Manager, wherein I had to talk to users, identify user needs and accordingly develop products that would solve user problems. I worked on some major project for android and desktop app, in addition to that I worked on delivering internal dashboards for the team.

Tool used (Development tools - H/w, S/w): Balsamiq, Confluence, Jira.

Objectives of the project: Incorporating new features on Vyapar.

Major learning outcomes: This internship helped me develop product thinking and learn problem solving in a structured manner.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is great, I had direct contact with the CEO and CTO, apart from that my manager was easily approachable and was very helpful. Other teams at Vyapar were more than happy to help me with anything required to get the product to completion. The company expects you to put in good efforts and think from user perspective keeping in mind the feasibility in terms of tech implementation for a product.

Academic courses relevant to the project: POM.

PS-II Station: Siply Services Pvt. Ltd., Bengaluru

Faculty

Name: Nishit Narang

Student

Name: AMAN GUPTA (2018A7PS0089G)

Student write-up

Short summary of work done during PS-II: A total of 3 projects were completed in the duration of 5 months. The work is completely technical. We integrated a new partner to the company's web and mobile application. The first project was documentation of the APIs (fairly easy), the second

was backend integration (designing flows and writing apis), and the third was make a working webapp using the apis written previously using flutter.

Tool used (Development tools - H/w, S/w): Node.js, Postman, Command Line, AWS, Golang, Flutter, Serverless Framework, Git.

Objectives of the project: The projects help interns to become confident in full stack development (web and mobile) on industry level.

Major learning outcomes: The internship makes you learn a lot of new frameworks, tools and softwares. Problem solving skills are definitely improved. Moreover, having two or more meetings a day with fellow interns and company officials brings in discipline and improves soft skills immensely.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Prior knowledge of frameworks and tools is not required. They provide enough time and resources to get you warmed up. But having some experience in web or mobile app development would definitely help a lot. Dont expect much interaction with the company officials. The meetings are very much to the point and brief (no chit chat). Leaves are flexible too. The company has a decent working environment. No problems were faced during the entire internship other than some delays in credit of stipends.

Academic courses relevant to the project: Basic computer programming and command line knowledge will suffice.

Name: BEJJANKI ADITYA (2018A7PS0282H)

Student write-up

Short summary of work done during PS-II: We worked on every stage of coding required to make an application running, from the backend to the front end.
We were made to understand the code base of the application by making us to do the documentation of the existing code by understanding it.
We worked on integrating the APIs provided to us by the service provider into the application backend.
Later we used this backend functions in our front end to make the application work on its features.
We learnt the entire process and software's used to make and a large scale network intensive application.

Tool used (Development tools - H/w, S/w): Postman, VSCode, Node.js, Serverless, AWS Lambda, Go Lang, OpenAPI, Android Studio, Flutter, Dart, AWS EC2.

Objectives of the project: The project was aimed at integration a service provider into an application, so that the customers could use its services through the application. It is an on product integration, since its a startup we wee made to work on their main application. The application is network intensive and best possible software's for network intensive applications like node.js were used. We were provided with a set of APIs from the service provider and another set of APIs from the application. These APIs were required to be connected in the backend and to be used in the frontend to make calls to the service provider through the application.

Major learning outcomes: Got to know and create, an application which run in startups. Learnt the architecture of the code which is followed in the company for readability and reusability. Got to know how a startup eco system works.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Good working environment, a good amount of work on the development of application or platform integration to the application was given to us, considering it was a startup with less people. We were made to work on actual application that the organization uses. Good and approachable mentors who are work driven. Got a good idea on application development, since both front end and backend were made by us. Talks on full time pending.

Academic courses relevant to the project: OOPs, DBMS were helpful.

PS-II Station: Smartchain Technologies Pvt. Ltd., Gurugram

Faculty

Name: Preethi N. G

Student

Name: PADIRA JAIDEEP REDDY (2018AAPS0592H)

Student write-up

Short summary of work done during PS-II: The Work Involved the development and maintenance of the company website (fashinza.com). My work involved was manly to writing the Backend code for many of the features being rolled out such as new Signup Dashboards, User management systems and also in reformat the existing codebase to improve the turnaround times and fixing bugs.

Tool used (Development tools - H/w, S/w): Django, Rest framework, Docker, Postman.

Objectives of the project: Development and Maintaining the Fashinza Website.

Major learning outcomes: Web development (Backend), Code collaboration (Git) and Understanding of the lifecycle of a product from a developers perspective.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Fashinza being a startup follows a much different approach to work. The Team members are very approachable

as there is an informal work culture which helps improve the working environment. Even though the team is very small they are always available for doubts or help if you are stuck on any issue. There are now start or end timings as the Work timings depends on the task on hand. The basic Idea is to complete the task roughly by the discussed time decided when a task is assigned and and the complexity is assessed. Hence as there are no working hours, we can expect to be working even late at night or even on the weekends to meet the required deadline.

Academic courses relevant to the project: Object Oriented Programming, Any course with Web Development basics is compulsory.

PS-II Station: Snap Deal, Gurugram

Faculty

Name: Monali Tushar Mavani

Student

Name: PATIL KARTIK YOGESH (2017B2AB1023P)

Student write-up

Short summary of work done during PS-II: • Analysed the lifetime value of Subcategories of products for first time users in a dynamic window of 30 days and generated a list of high revenue generating products.

• The list of products was integrated to boost the advertisement campaign for the found high performing products.

• Tagged gender to 200k+ users by analysing the user purchase behaviour in a 6-month time frame to provide personalized experience.

. Developed an algorithm to generate a list of 2.6 Lakh users everyday for whom retention program would be carried forward.

Tool used (Development tools - H/w, S/w): SQL, Excel, DP-Lite.

Objectives of the project: Life time Value Analysis, Retention of customers.

Major learning outcomes: Hands on experience with Big data.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Team members are supportive, good work-life balance.

Academic courses relevant to the project: NA

PS-II Station: Snapdeal - AI Project, Gurugram

Faculty

Name: Swarna Chaudhary

Student

Name: DEEPSHIKA DUTTA (2018A1PS0312G)

Student write-up

Short summary of work done during PS-II: My work was mostly related to pulling out data using sql queries. Later I started working on computer vision.

Tool used (Development tools - H/w, S/w): Python, PostgreSQL, Excel, OpenCV.

Objectives of the project: Support product team by pulling out relevant data for them.

Major learning outcomes: Learnt sql and computer vision.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It was indeed a great learning experience. PS II made me accustomed to the corporate world, while being in college.

Academic courses relevant to the project: CP, Data Science.

PS-II Station: Splashstar Technologies Pvt. Ltd., (FrontRow), Bengaluru

Faculty

Name: Dinesh W Wagh

Student

Name: JAI VASHISHTHA (2017B5AB0664P)

Student write-up

Short summary of work done during PS-II: My work included running operations for the category team and creating new engagement features on the app. Apart from that, I did market research and proof of concept experiment design. My projects improved the retention and daily user base of the comedy category in the app. The retention grew by 10% and DAU by 35%. The subscription offering became a revenue driver for the company, generating Rs 1 lakh+ in monthly revenue. The live courses experiments helped improve the experience for users, which is the primary revenue driver for FrontRow.

Tool used (Development tools - H/w, S/w): CleverTap, Mixpanel, Metabase.

Objectives of the project: There were 3 objectives of the project: a) Grow the retention and user base of the comedy category on the FrontRow app b) Establish a subscription offering for comedy learners and generate recurring revenue c) Run experiments to understand the ideal live course delivery format for online learning.

Major learning outcomes: My major learnings were operations management, user base growth and retention, market research, experimentation.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was very warm and friendly. There was no rigid corporate structure and everyone was approachable. However, the company expected high performance and good commitment from all team members. The role was predominantly operations and strategy.

Academic courses relevant to the project: POM.

PS-II Station: Sproutlife Foods Pvt. Ltd., Bengaluru

Faculty

Name: Gaurav Nagpal

Student

Name: MAYANK DUBEY (2018A2PS0127P)

Student write-up

Short summary of work done during PS-II: Build a Company's Website Daily Pnl from scratch considering all the associated costs which is not available on daily basis so have to deal with each cost associated component separately and find a sol for it. Then setup a Database for it and then linked it to a Metabase (Data Visualization Tool).

Tool used (Development tools - H/w, S/w): Sql, Python, Excel, Metabase.

Objectives of the project: Making a Daily Pnl for website considering all the associated cost.

Major learning outcomes: Sql, Python.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working Environment is pretty chill being a Startup and everyone is very helpful, You can work on various things where your interest lies, it's not just specific to the profile . Working hours is around 7-8 hr and 5 Days a week. PPO chances are also very good being a growing startup.

Academic courses relevant to the project: CP, OOPs.

PS-II Station: Sun Mobility, Bengaluru

Faculty

Name: Preethi N. G

Student

Name: NANDYALA DINESH REDDY (2018A7PS0431H)

Student write-up

Short summary of work done during PS-II: Work consisted of developing software modules that are integrated in to their system and updating old pieces of code to make them relevant up to date. We developed some new features which helped them bill more efficiently and accurately. Parameters are extracted from a 256 bit signals and Kafka servers which are developed in other modules. Appropriate calculations are done to make them in to standard units and make them readable.

Tool used (Development tools - H/w, S/w): Kafka, Docker, ELK stack, for testing proprietary stations of the organization.

Objectives of the project: As part of the swapping there are some battery “exchange” stations technically termed as stations here in the organization. Each station contains 15 docks where each dock contains a battery. As and when required a discharged battery is replaced with a charged battery in the dock. For the purpose of billing different parameters are collected from the batteries, stations and all other parameters that consume energy to make the transaction possible. In the previous version of the energy calculations some parameters are captured and some parameters are estimated while some parameters are not at all captured hence not included in the energy breakup for billing purposes or report generation.This impacted the station efficiency by a significant value. A new set of calculations and parameter collection is to be done to improve the situation.

Major learning outcomes: Working and functioning as a team, adapting new technologies and industry practices, learnt Git, basics of Kibana and Kafka in implementation level, learnt to use the functions of docker container and time management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company feels very much like a startup environment where it is a very good chance to be involved from the basics and grow with it. The company expects you to adapt to new technologies to their need. They also expect you to be strong in basics and how to manage with limited resources.

Academic courses relevant to the project: Software Engineering, OOPS, DBMS.

PS-II Station: Synchrony, Hyderabad

Faculty

Name: Y V K Ravi Kumar

Student

Name: RAMNEEK GARG (2017B2A81053P)

Student write-up

Short summary of work done during PS-II: 1) IT Resource Capacity Reporting - Firstly I supposed to make the data consistent for reporting and then visualize the same using tableau earlier that was done in excel.
2) Categories supplier considering different parameters with different weightage assigned.

Tool used (Development tools - H/w, S/w): Tableau, Advance Excel, Jira.

Objectives of the project: To automate the resources capacity reporting.

Major learning outcomes: Data Visualization, Supplier Management, Team Work, Agile Methodologies, Professional Communication.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work timings are flexible, people are really helpful and reachable, lot of interactive sessions with the leadership team.

Academic courses relevant to the project: NA

Name: AADITYA SHARMA (2017B4A80844P)

Student write-up

Short summary of work done during PS-II: Hadoop File System Size monitoring and automated alert system (Python Script) - Built a Script to monitor size and alert administrators of the Big Data platform if there is a change in size of listed folders above a limit, used system calls in python to call Hadoop functions using command line, used FSImage on namednodes to scrape size related information. Built various functions to find the right fsimage, copy it to a edge node and extract it. Data Visualization and analytics automation - Built Tableau Dashboards to visualize data related to service delivery and various parameters from service now data.

Tool used (Development tools - H/w, S/w): Python, Hadoop function calls, Tableau, HIVE(SQL) - HUE.

Objectives of the project: Automate Hadoop file system size monitoring on big data platform, Automate analytics and build data visualization Tableau Dashboards.

Major learning outcomes: Hadoop, Tableau, Service analytics.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Synchrony provides good amount of time for interns to get comfortable with the systems and trainings, company focuses a lot of time on Compliance trainings related to US Banking laws and information security, company provides freedom to explore various trainings on their learning portal and understand their propriety technology. Synchrony has great focus on information security and compliance. Intern expect a very comfortable working environment. Managers and analytics users are very helpful in providing user point of view.

Academic courses relevant to the project: Operating Systems - This was helpful in using system calls, although elaborate knowledge was not required.

PS-II Station: Techture Structures, Indore

Faculty

Name: Dinesh W Wagh

Student

Name: SUBHAM AGARWAL (2018A2PS0139P)

Student write-up

Short summary of work done during PS-II: - Involved in the pipeline and component design for plumbing and electrical works for a commercial area in Dubai.
- Designed the rebars in the structural components (beams, columns, slabs, Stairs) according to the drawings in a residential building.
- Designing involved reading general notes, studying detailed general arrangement drawings and typical rebar details and finally using the related CAD files to design the rebars.

Tool used (Development tools - H/w, S/w): Civil 3D, Revit.

Objectives of the project: Relevance of BIM in construction industry.

Major learning outcomes: Civil 3D, Revit.

Details of papers / patents: No

Brief description of working environment, expectations from the company: The working environment is great for learning. It totally depends on how much efforts you put. People are more than willing to help. The environment is somewhat hectic.

Academic courses relevant to the project: AOS, DRCS, DSS.

Name: SHIVASHRI GUPTA (2018A2PS0798H)

Student write-up

Short summary of work done during PS-II: Worked on various national and international architectural projects such as Maryam Island P3 Dubai, Y Junction Hyderabad Mall, The Link Dubai and Santa Monica College USA.

Tool used (Development tools - H/w, S/w): Used construction management tools like BIM 360 , Revit, AutoCAD, Bluebeam etc.

Objectives of the project: Objective was to make 3D models of these buildings using the drawings provided by the client and using the models make documents and sheets that can be used for construction.

Major learning outcomes: I learnt about the office procedures and how to communicate with the clients, I also learnt how to use the various softwares listed above.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company environment and work culture was good, mentors were very understanding and helpful but work load was too much, the deadlines were really tight.

Academic courses relevant to the project: Construction Planning and Technology.

PS-II Station: Texas Instruments (I) Pvt. Ltd., -Analog, Bengaluru

Faculty

Name: Satya Sudhakar Yedlapalli

Student

Name: YASH NAGESHWAR RAYUDU (2017B4AA0893H)

Student write-up

Short summary of work done during PS-II: I had to redesign the architecture of the TLVH431 low voltage reference circuit and ensure its DC operability, i.e. ensure that the data sheet DC specifications are being met.

Tool used (Development tools - H/w, S/w): Cadence Virtuoso.

Objectives of the project: To ensure DC operability of the TLVH431 circuit at 25 C and downsize the chip area by 60%.

Major learning outcomes: Nuances of Analog IC design and Layout techniques.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work from home and work culture was good, mentors were very understanding and helpful.

Academic courses relevant to the project: Microelectronics circuits, ADVD, Analog IC design.

Name: NAIK NILAY SANJAY (2018A3PS0277G)

Student write-up

Short summary of work done during PS-II: Performed Analog Fault simulation to detect faults in circuits using cadence in collaboration with ATE co-sim. Test program for the device was developed and used for detection.

Tool used (Development tools - H/w, S/w): Cadence Legato, cadence virtuoso,ATE ETS 364 tester, Verilog ATE replication (VATER).

Objectives of the project: Calculate and improve test coverage.

Major learning outcomes: Developing test codes for device testing, hands-on experience on cadence Legato and it's fault simulation tool.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Internship was WFH. Mentors were very helpful, flexible working hours. TI -Analog expects high productivity and clear fundamentals for core electronics.

Academic courses relevant to the project: Micro-Electronics, ES.

Name: CHAVAN VEDANT VINOD (2018A3PS0291G)

Student write-up

Short summary of work done during PS-II: Wrote a OCEAN code for electro-thermal simulation and did logic test on TPS25990.

Tool used (Development tools - H/w, S/w): Cadence, OCEAN, SPADE.

Objectives of the project: Creating a environment for electro thermal simulation.

Major learning outcomes: Importance of electro thermal simulation, using cadence and OCEAN.

Details of papers / patents: Creating an environment for electro thermal simulation.

Brief Description of working environment, expectations from the company: Working was online, team was really helpful, no fixed working hours, most meetings were held between 9am - 7 pm but sometimes they were at 9 pm only if everyone is available.

Academic courses relevant to the project: Analog electronics, ES, ADVD, Micro electronics.

Name: S SAI SIDDHARTH (2018A8PS0404G)

Student write-up

Short summary of work done during PS-II: My work was oriented with the Transceiver design group. I worked on two projects over my period here. The first one was towards correlating simulation to silicon results of CAN Transceivers and the second one was development of a new product where a high speed RS-485 compliant transceiver was designed from scratch using their design library components.

Tool used (Development tools - H/w, S/w): S/W: Cadence Design Tools, MATLAB, LabView (while in lab)
H/W: Even though the internship was remote I got a chance to work in the lab so you need to be familiar with tools such as AFG, Power Sources, Probes etc.

Objectives of the project: Designing a new product and Improving on existing products.

Major learning outcomes: Got to learn about various aspects of transceiver design such as EMI receivers, FFTs, Cable model attenuations, Inter Symbol Interference (ISI) and how solutions are implemented to take care of some of the problems observed in basic transceiver design.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The workplace was very flexible during remote mode of operation. As long as you attend daily meetings and get the daily tasks done they do not care about any working time. The people are really friendly too and it is encouraged to seek help when unable to solve a particular issue. Being an established corporate however there are some procedures that need to be followed. The mentors and managers expect you to work on the given tasks and approach them only when you are stuck somewhere . Overall it's a great place to work with nice people.

Academic courses relevant to the project: Analog electronics, Electrical Sciences.

PS-II Station: Texas Instruments (I) Pvt. Ltd., -Digital, Bengaluru

Faculty

Name: Satya Sudhakar Yedlapalli

Student

Name: AASTHA DAVE (2017B3AA0959H)

Student write-up

Short summary of work done during PS-II: I worked to automate the process involved in SoC design verification. I worked with a variety of mixed-signal modules to automate their behavioral model generation, perform IP level simulations and SoC level simulations. I successfully reduced model development time from about a week to 1-2 hours / IP.

Tool used (Development tools - H/w, S/w): Cadence Virtuoso, Spectre, Simvision, Xcelium and other proprietary tools.
Objectives of the project: Automated generation of high fidelity analog behavioural models and their successful integration with the SoC with the aim of reducing time to market for TI's products.

Major learning outcomes: Exposure to SystemVerilog, better understanding of SoC level power aware RTL simulation framework, preparing module testbenches, SystemVerilog model simulations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working culture with flexible hours for WFH. The team members and managers were very approachable and always willing to help and provide guidance. The expectations from interns were reasonable and achievable.

Academic courses relevant to the project: Digital Design, VLSI Design, C Programming, Analog Electronics.

Name: JAGMOHAN JENA (2018A3PS0387P)

Student write-up

Short summary of work done during PS-II: This project discusses about estimation of count of current ripples and thus position and speed of Brush DC motors. Generally, Hall sensors are used for this purpose which gave accurate results. But it involves comparatively more system cost and difficult to operate. So, we are trying to shift into sensor less approach which involves ripple counting of motor current of BDC motors.

Tool used (Development tools - H/w, S/w): System Verilog, MATLAB, Simulink, Cadence simulation tools, Quartus Prime, FPGA board.

Objectives of the project: To estimate speed and position of Brush DC motor using ripple counting approach.

Major learning outcomes: Digital design and verification, Verilog coding, Debugging skills using Verilog simulations, Architecture of arithmetic modules, FPGA synthesis basics.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Internship was WFH so interaction was through calls or meets. Mentors were helpful and approachable. Interaction with other team members were also encouraged .Had a great exposure to electronics domain. Working hours were flexible.

Academic courses relevant to the project: Digital design, Control systems, Electrical machines.

Name: AVINASH BHAT PATTAJE (2018AAPS0476H)

Student write-up

Short summary of work done during PS-II: My work involved creating a model zoo for monocular depth estimation. I would import pre-existing repositories on github, convert the models to ONNX format, and then import the models into TIDL, TI's deep learning framework for their edge devices. I had to use different levels of quantization and benchmark their performance.

Tool used (Development tools - H/w, S/w): Python, PyTorch, ONNX, TIDL.

Objectives of the project: Prepare a model zoo for monocular depth estimation.

Major learning outcomes: Learnt how to use PyTorch and ONNX for deep learning.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: There is a welcoming environment, and the team is quite supportive. They help you cover any prerequisite knowledge that you are lacking, and provide guidance and support as you ask for it. They also provide learning material for topics outside the scope of your work that you can pursue at your leisure.

Academic courses relevant to the project: Neural Networks and Fuzzy Logic.

PS-II Station: TomTom India Pvt. Ltd., Pune

Faculty

Name: Sonika Chandrakant Rathi

Student

Name: VAIBHAV ARUN ZADE (2018A3PS0405H)

Student write-up

Short summary of work done during PS-II: Working with Development data and later on production data which was based on mapping and updating the layers of map by running Python scripts.

Tool used (Development tools - H/w, S/w): QGIS, MongoDB, Python 3.

Objectives of the project: 3 Projects: 1. Visualising Anchor points and points of interests of given development data on Map. 2. Plotting a WMS layer for given APTs and POIs alongwith various filters for eg. country, source, date. 3. Updating language notation of APTs in top 10 countries.

Major learning outcomes: Python Scripting, QGIS Data styling and mapping.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home, they expected work more than being just online. Meets were scheduled and hardly any quick meets. Friendly and motivating team. Everyone is so much co-operative.

Academic courses relevant to the project: DSA, OOPs.

Name: SAURABH CHAUHAN (2018A3PS0480G)

Student write-up

Short summary of work done during PS-II: There is a lot of data stored on the MongoDB server of TomTom. This project aimed to provide more meaningful insights on Source data stored in SDP in this project. For this POC, we will focus on creating clusters for various sources in SDP. The filtering options will include Data currency, Feature type, Sources, Delivery ID, Country. We will plot the maps on QGIS and use Python as our programming language.

Tool used (Development tools - H/w, S/w): QGIS, MySQL, MongoDB, Python.

Objectives of the project: Provide insights to the data stored on MongoDB.

Major learning outcomes: Made a plugin from scratch for QGIS.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was great. Mentors and manager were really helpful.

Academic courses relevant to the project: DSA, OOP.

Name: PUTHA VENKATA ROHITH REDDY (2018A3PS0636H)

Student write-up

Short summary of work done during PS-II: My project was on external classification of POIs. Used nlp models to classify poi's to their respective categories.

Tool used (Development tools - H/w, S/w): Python, docker.

Objectives of the project: Classification of Pois.

Major learning outcomes: Python, Docker, Agile.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Manager was amazing. He gave ample time to explore and come up with solutions. Mentor were really helpful.

Academic courses relevant to the project: Object oriented programming.

Name: PUTHA VENKATA ROHITH REDDY (2018A3PS0636H)

Student write-up

Short summary of work done during PS-II: I have used external NLP models to categorise POIs present in the User signals database. This is done to get external view of the what's being searched on the APIs.

Tool used (Development tools - H/w, S/w): Python, Docker, elastic search.

Objectives of the project: External classification of POIs.
Major learning outcomes: Learnt Python, Docker and a bit of NLP.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: We had online PS. The manager and mentors were very helpful and supportive. Overall a positive environment.

Academic courses relevant to the project: Object oriented programming.

Name: KHUSHEE AGNIHOTRI (2018AAPS0024G)

Student write-up

Short summary of work done during PS-II: We were part of the "Global 400 team" as innovation interns, and our main objective was exploring different ways to implement the ticket issued to us and come up with a PoC. Once the PoC was finalized, we also began work on properly implementing it along with other engineers in the department so that it could be integrated into the company's toolkit. My first project was related to Data Science but was in it's final stages, so there wasn't much I could implement by myself to it. However, it was a good learning experience. My second project dealt with finding patterns and visualizing the "data gaps" we had at different locations in our maps. My third project was collaborating with the Data Insights team to build Power BI dashboards for the company's use so anyone, even from a non-technical background could understand our data.

Tool used (Development tools - H/w, S/w): Power BI, Python, QGIS, PostgreSQL, MongoDB, MySQL.

Objectives of the project: Data Analytics and Visualization.

Major learning outcomes: I learnt how to work with SQL queries, improved my data manipulating skills in Python and also became proficient in Power BI.
Details of papers / patents: None

Brief description of working environment, expectations from the company: During my internship, I got to work on 3 different projects and my managers were really supportive with the work culture being good as well. They were very mindful of your interests while allotting you a project, and since I was interested in Data Analytics, all of my projects were in this domain.

Academic courses relevant to the project: DSA, DBMS, OOP.

PS-II Station: Trell Experiences Pvt. Ltd., Bengaluru

Faculty

Name: Srinath Naidu

Student

Name: KOGANTI SASANK (2018B4TS1158P)

Student write-up

Short summary of work done during PS-II: To provide the required data using SQL, create interactive dashboards and to automate the monotonous work.

Tool used (Development tools - H/w, S/w): Google Cloud Platform, Redash, Cronicle, Metabase, JupyterHUb, Pycharm, Git and Google sheets.

Objectives of the project: 1) Organizing Campaigns 2) Data Cleansing 3) Creator Space.

Major learning outcomes: Improved Python, Sql and excel skills and got to know how campaigns are organized, how data cleansing is done and how root cause analysis is done and also learnt how corporate works.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: Had a great time working there, mentors are helpful and allow you to learn at your own pace and also provide great KT sessions and also give interesting work.

Academic courses relevant to the project: DSA, OOPs.

Name: PRATEEK ARYAN SINGH (2017B2A81021P)

Student write-up

Short summary of work done during PS-II: Trell is a lifestyle social commerce platform, and one of India's fastest growing players in the creator economy space.
As an Associate Program Manager, I was responsible for Trell's creator experience program, which is measured by the creator's NPS, engagement and retention. I was responsible for multiple projects and initiatives under this program.
Apart from overlooking existing projects, I got the opportunity to ideate and execute new initiatives and take complete ownership for them, while taking them 0 to 1.

Some of my personal favorites were:

i. CAP: A unique accelerator program for upcoming creators (ideation, strategy, creator onboarding, operations).

ii. Creator Corner: Worked with the product team to fix the creator insights dashboard on the Trell app.

iii. Language Integration: Collaborating with third party translation SaaS startups to integrate a text translation functionality in the Trell app.

iv. Creator Celebration: Ideating and launching initiatives to celebrate good performance of Trell creators.

v. MIS Dashboard: Building and owning Management Information Systems for all underlying projects.

Every day was unique at Trell. I was involved in analyzing data, ideating strategies, launching programs, overlooking operations, managing stakeholders, coordinating with multiple teams, and interviewing candidates as well. At Trell, if you take ownership and strive for success, more work shall find you. And this is exactly what helps you grow. Trust shall be put in you, and responsibilities shall be assigned, regardless of what your title is.

Tool used (Development tools - H/w, S/w): Google Suite, Hypeauditor, Canva, PictoSaic.

Objectives of the project: The objective of the Creator Experience Program was to improve the overall experience of Trell creators, measured by the their NPS, engagement and retention.

Major learning outcomes: 1. Major insights about the social media industry, e-commerce, and creator economy.

2. Leadership: Effective Communication | Crisis Management | Stakeholder Management | People Management | Delegation.

3. Business: Documentation: PRD/BRD/FRD | Product Analysis | Strategy | Operations.

4. General: Prioritization | Critical Thinking And Analysis | Data Analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Trell is a fast-growing startup with a flat hierarchy and passionate people. Despite having over 1000 employees, it still has open doors. Everyone, founders included, are approachable if their assistance is

required. Ideas are encouraged, no matter how laughable they might sound. There is an extremely helpful and supportive culture, and never did I feel that my being an intern led to people treating me differently. Ownership is encouraged and rewarded. You should be comfortable with making mistakes and starting over. Since it is still a startup, projects often undergo changes at a quick pace. Get comfortable with uncertainty, learn to accept it and thrive in it. Speaking of expectations, I'd love to see more processes and rituals being implemented. While they do slow startups down, they are essential towards helping a startup achieve perhaps on of its most important goals, i.e. not being a startup anymore. Focusing on sustainability as much as speed is what I would like to see.

Academic courses relevant to the project: Creative Thinking: Taught me certain thinking models that I found useful.
Shrimad Bhagavad Gita: Remaining calm, specially when the chips are down.

Name: ADITHYA (2017B4A41017G)

Student write-up

Short summary of work done during PS-II: I was an Associate Program Manager - Intern at Trell. Our team's major focus was to grow the Trell Chats platform which was released in mid-August. I was tasked with managing 2 interns and writing Python codes for doing some tasks using Selenium and other packages. I was also given the opportunity to work on Data Analytics using BigQuery and another internal platform.

Tool used (Development tools - H/w, S/w): Python, Web scraping using Selenium Webdriver, Google Sheets, SQL (BigQuery).

Objectives of the project: Growth of Trell Chats.

Major learning outcomes: Python, Selenium, SQL, Front end development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was great and gave me a lot of growth while working for the company. I got to meet many employees and coordinate with them in many projects. My mentor was a really supportive person and included me in almost all major meetings, even the ones with high executives. I also had the opportunity to conduct meetings with a few clients, engage with them and understand how the industry works. Overall, the work experience was a bliss.

Academic courses relevant to the project: DSA, OOPs.

Name: ABHINAV KRISHNA (2018A4PS0560G)

Student write-up

Short summary of work done during PS-II: Formally APM of Post Onboarding in the Affiliate YT program at Trell. Work involved streamlining the processes involved in all aspects of the Affiliate program. Communicated with the team of all 8 languages to ensure streamlined structure is implemented end to end. Worked on complete Affiliate database for cleaning, sorting and analyzing data of creators for any trends or deviation in stats. Initiated and completed creation of a master database and a unique ID mapping. Eliminated manual data entry through Web Scraping scripts. Videos live per month increased over 4 times.

Tool used (Development tools - H/w, S/w): Google Sheet, MS Excel, Python.

Objectives of the project: Maintain and Improve the flow of Afffiiate YT program.

Major learning outcomes: MS Excel, Web Scraping.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great Environment. Diverse culture since all 8 languages are represented equally at Trell. Don't expect

high ownership work, major part of our work involved dealing with day to day problems in the database of the Affiliate Program. Daily mundane work has to be done. Great place to learn how the influencer driven economy works and the hype with Social Commerce Platforms. No prior skills needed.

Academic courses relevant to the project: OOPs.

Name: RUTVI (2018A7PS0350P)

Student write-up

Short summary of work done during PS-II: Data analysis of the accepted trails of the company for each month using Python and automating it through Cronicle and displaying it on the Google Sheet for easy accessibility.

Tool used (Development tools - H/w, S/w): PyCharm for code, GitLab, Cronicle, Metabase.

Objectives of the project: To analyse the trend of each creator in a month of his/her accepted trails.

Major learning outcomes: New libraries in Python and SQL language in deep.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Environment of the company is quite inclusive and enables everyone to be creative enough.

Academic courses relevant to the project: Database Management System.

PS-II Station: UBER, Hyderabad

Faculty

Name: Nishit Narang

Student

Name: HRITIK VINAYAK LAL (2018A1PS0281G)

Student write-up

Short summary of work done during PS-II: 1) Handling Jira requests: The Jira requests are raised by the stakeholders and the tasks vary from simply editing queries to incorporate some columns, validating the queries in case of some discrepancies, making queries from scratch based on specific requests, automating queries, to making dashboards based on the query.
2) I also got to work on some side projects like EMEA Sales Roster project which is basically about maintaining a common database for all Sales Reps in EMEA region.
3) I also had to maintain some dashboards related to business metrics.

Tool used (Development tools - H/w, S/w): SQL, Google Sheets, Python.

Objectives of the project: To develop a common database for all the sales representatives across entire EMEA region.

Major learning outcomes: Honed my Skills of SQL, Excel and Python by working on several tasks that you will be asked to do at Uber.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is quite great. The people here are quite supportive and approachable. Your Work-Life balance will depend on the LOB for which you work for. Personally for me the work was quite hectic and I had to devote 6-8 hours on a daily basis, for some other people it was more chill. The

company basically expects you to work properly and provide accurate data to the stakeholder especially when you are working for the analytics role and you should provide it within the deadline. However you will get to experience working for a top MNC so it will be worth it.

Academic courses relevant to the project: CP.

Name: SOUBHIK ROY (2018A4PS0994H)

Student write-up

Short summary of work done during PS-II: Understanding of the business model, the metrics involved and the purpose of each metrics. Data extraction using SQL and further processing, cleaning and visualisation of the Data using Google sheets. Automation tasks may require a bit of Python and pandas module specifically. Tasks mostly revolve around Data extraction, data cleaning, data processing, data visualisation and drawing meaningful conclusion from the processed results to be presented in PM and BD team.

Tool used (Development tools - H/w, S/w): SQL, Sheets, Python.

Objectives of the project: Business data processing.

Major learning outcomes: Technical skills along with improvement in communication and presentation skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Really good WE along with knowledgable peer group with lots to learn from. Mostly everyone is an IIM / ISB graduate. So the level of discussion happening is a step higher than usual.

Academic courses relevant to the project: Prob and Statistics, DBMS, any Python related course like AIFR or IOT for basic syntax knowledge.

Name: CHIRAAG THAKUR (2018A8PS0404P)

Student write-up

Short summary of work done during PS-II: The long-term project I was given was to create a tool which could find the emotion and sentiment of a piece of text, and to include it in a dashboard. I also completed several daily tasks, which were generally along the lines of pulling data from the backend and analysing it and generating metrics for stakeholders for a variety of purposes. As I completed my primary task early, I was also asked to work on setting up a metrics pack for A/B Experimentation.

Tool used (Development tools - H/w, S/w): SQL, Python, Tableau.

Objectives of the project: To create a tool to find the emotion and sentiment of a piece of text.

Major learning outcomes: Working as part of a global team, especially from home.
Learning about experimentation, analytics, metrics, and insights.
Stakeholder management and presentation of yourself and your work.
Hard skills like SQL, Dashboarding, and Python.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was very good. My manager, my 'buddy' and my team were all incredibly nice and always helpful. I was given a full month to learn all the tools and get onboarded (including courses on Python, SQL, and basically any tool I'd need) and was constantly encouraged to learn more. Everyone also encouraged me to take up cross-team projects and stretch goals, irrespective of the outcome. I was treated like a full member of the team, called on to give opinions in meetings

with stakeholders, and handle entire projects: there was no 'busywork' at any point. I had the flexibility to take up projects from the available ones (subject to priority, of course) based on my skills, interests, and strengths. Overall, I truly enjoyed my internship and the people at Uber. The company was super generous in that I was also given employee benefits, despite not being a full-time employee. I also learnt a lot of new hard and soft skills in my time there.

Academic courses relevant to the project: None I'd done.

PS-II Station: UBS - Group Finance, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: ARYAN GUPTA (2017B3A10692P)

Student write-up

Short summary of work done during PS-II: Regulatory reporting. Creating daily segregation reports for filling at authorities.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: Creating daily segregation reports for margin requirements.

Major learning outcomes: Got insight of rules and regulations applied at the firms after 2007 to stop any of such event in future.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Team is helpful. Company require you to do work cautiously as well as accurately.

Academic courses relevant to the project: None

PS-II Station: UBS - Group Finance, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: ADITYA BHARDWAJ (2018A2PS0599P)

Student write-up

Short summary of work done during PS-II: Worked in the domain of NLP. Built Deep Neural Networks for generating financial commentaries. Built a standalone app in Python using Qt to display and edit those commentaries. Finally results deployed on a PowerBI server to cater to clients need.

Tool used (Development tools - H/w, S/w): Python, Tensorflow, Qt, PowerBI.

Objectives of the project: Automatically generate financial commentaries over raw trading data.

Major learning outcomes: I gained valuable experience of working in a corporate environment. I gained insights about the inner working of Investment Bank and different divisions in it.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was good. You get reasonable timelines and are expected to complete work within the timeline.

Academic courses relevant to the project: Computer Programming, Applications of AI in Civil Engineering.

Name: PRIYESH MOHTA (2018A3PS0033H)

Student write-up

Short summary of work done during PS-II: I was a part of GROUP ELN LCR team. The overview of the job was to maintain liquidity against the equity linked notes issued. My daily task was to Retrieve data from the ledger to find the new notes that are newly issued, extract the contract notes (Termsheets) from internal sites or middle offices, classify the ELN based on the value of note and the redemption type explained above and upload the working file on the UBS software which is then used for Liquidity Calculation.

Tool used (Development tools - H/w, S/w): MS Excel, Python.

Objectives of the project: To classify the new notes issued by UBS and automation of the process.

Major learning outcomes: Learnt to use MS Excel and Python.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: This was a work from home internship. The working environment of the company was pretty good. The time shift was from 12-9.

Academic courses relevant to the project: FoFA.

PS-II Station: UBS - Group RISK, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: RITWIK SRIVASTAVA (2017B3A20735P)

Student write-up

Short summary of work done during PS-II: During my tenure, I was part of a team responsible for development and creation of various risk exposure models (Derivatives and SFT) of the investment banking division within the UBS Group.The quantative methodologies used are related to sophisticated derivative pricing models.

Tool used (Development tools - H/w, S/w): Python, R , SQL, Latex, bank's internal softwares.

Objectives of the project: Part of various projects related to backtesting models, Smirnov Kolmogorov statistic analysis on various portfolios, confirmation documents automations etc.

Major learning outcomes: Learned about how risk models from the development to deployment phase and also about various risk methodologies.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Decent work life balance, good peers, small team with people from Mumbai, London, Frankfurt and Krakow, cooperative management.

Academic courses relevant to the project: Applied Econometrics, FRAM, DRM.

Name: KARTIKEYA SINGH (2017B3A20776P)

Student write-up

Short summary of work done during PS-II: As part of the Model performance and model confirmation team, our work was to test/monitor the credit risk models with the latest data quarterly/annually . Also, we were required to migrate the models to an internally created environment.

Tool used (Development tools - H/w, S/w): R programming language, MS Office.

Objectives of the project: Model performance and model confirmation.

Major learning outcomes: R programming.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Disciplined working environment. One will get a good flavour of corporate life.

Academic courses relevant to the project: Econometrics, Statistical concepts.

Name: TANVI MARKHEDKAR (2017B3A30727G)

Student write-up

Short summary of work done during PS-II: As part of the scenario models team, I was primarily involved in producing various testing results using R language. I also used LaTeX to document those results. The tasks helped me gain a better command over R programming.

Tool used (Development tools - H/w, S/w): R Programming, LaTeX, Risklab, Gitlab.

Objectives of the project: To determine the effects of certain preset shocks on various asset classes.

Major learning outcomes: RStudio, LaTeX, Econometrics.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Company doesn't strict rules for timings, it just expects work to be done within the given deadline. Work environment is good and team members are very helpful.

Academic courses relevant to the project: Econometrics, Applied Econometrics.

Name: SHREYAS KHADSE (2017B3A31681H)

Student write-up

Short summary of work done during PS-II: Worked as a prt of the MPMC team Mumbai. This role is basically the Quant role in any bank disguised as Group Risk which they call at UBS. Interesting work of model validation or model monitoring. Along woth an automation project they take up each year.

Tool used (Development tools - H/w, S/w): R, python, SAS, git, LaTeX, Markdown.

Objectives of the project: Project Euler + Model Performance Monitoring and Confirmation.

Major learning outcomes: Gets your learning in line with the quantitative role you aspire for in any bank.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work hours are chill. You just have to attend the meetings to report your progress, and you get the flexibility to work during the hours you like. Sometimes the burden is a lot when deadline is close if that's not the case or you are done with it, you can have a perfect work life balance.

Academic courses relevant to the project: Econometrics, Statistics.

Name: AKSHAT KHANDELWAL (2017B3A80509G)

Student write-up

Short summary of work done during PS-II: Worked as a part of the exposure risk measurement team. Initial work was like a training period related to statistics and quant. I worked on some internal exposure control processes and majorly on Backtesting for the OTC market. Backtesting gave me a good knowledge of softwares like R and SQL. Further financial conclusions were derived from these processes.

Tool used (Development tools - H/w, S/w): R, SQL, Python, Internal Softwares.

Objectives of the project: Backtesting at trade level.

Major learning outcomes: R studio, Statistics, SQL, Exposure measurement.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company has a good working environment with good peers. Company doesn't have hard and fast rules for

timings, just expects work on time. Learning is totally upto the candidate as work ranges from statistical tests to basic latex work. But opportunities are good and team is small which creates a very helping environment even if you are new to statistics. Work does involve taking responsibility.

Academic courses relevant to the project: Econometrics, Applied Econometrics, Derivatives and Risk Management.

PS-II Station: UBS Business Solutions (India) Pvt. Ltd., - Group Operations, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: ABHRAJIT SARKAR (2017B2AB0893P)

Student write-up

Short summary of work done during PS-II: Worked in the Derivatives team of CAIP (Corporate Actions Income Processing) Department. The job usually pertained to clearing and booking currency fixed income events (known as Equity events) and also involved approving them so that cash transfers can occur from client side and bank side. Apart from this, also handled 35 day list, which pertains to creation of events for the upcoming 35 day.

Tool used (Development tools - H/w, S/w): None

Objectives of the project: Handling of Currency based fixed income derivatives.

Major learning outcomes: Regulation of Fixed income derivatives.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The team was very helpful and supporting. They guided me well on the workfront. The nature of the work could become tedious sometimes but my team assisted me all times and made things comfortable. Every member was very approachable and answered my queries diligently. Overall a healthy and productive working environment. Attempting for a PPO conversion.

Academic courses relevant to the project: FoFA.

Name: SAAHIL PUDIPEDDI (2018A1PS0034P)

Student write-up

Short summary of work done during PS-II: Developed a program (macro) to give the reconciliation rate of the trades that were worked on by the teams. Worked in VBA, Excel to create others small tools to help the teams daily work.

Tool used (Development tools - H/w, S/w): Excel, VBA, Python.

Objectives of the project: Automate parts of the trade settlement process.

Major learning outcomes: Improved technical skills such as VBA, Python, Excel as well as soft skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very friendly atmosphere, daily meets with team and weekly meets with manager to discuss.

Academic courses relevant to the project: FoFA.

Name: AGRAWAL MADHUR RATNESH (2018A1PS0702P)

Student write-up

Short summary of work done during PS-II: UBS has outsourced its operations work to a service company, my work was to supervise back office operations done by that service company. We do that by implementing several controls. I was also making weekly reconciliation reports for the controls I implemented, and was updating the yearly reconciliation report. I was also involved in a project which aimed to create a central repository of all the processes in UBS.

Tool used (Development tools - H/w, S/w): Excel, Snagit, ARIS.

Objectives of the project: Creating central repository of all process in UBS; reducing errors and data gaps in UBS.

Major learning outcomes: Functioning of Investment Bank, stakeholder management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment in my team was pretty chill, everyone is helpful.

Academic courses relevant to the project: Don't require any course in particular. General knowledge of Financial instruments and financial terms is sufficient.

Name: MOHIT YADAV (2018A2PS0861P)

Student write-up

Short summary of work done during PS-II: There wasn't any project but a set a of reports to be completed daily. Very basic work. We had to make sure that data across different software was correct and matching. If any discrepancy found, correct the data according to the rule book of the organisation.

Tool used (Development tools - H/w, S/w): Excel and company's proprietary software (VSA, FKE and IMActions).

Objectives of the project: Complete Daily BAUs.

Major learning outcomes: Working of the backend of Wealth Management.
Details of papers / patents: None

Brief description of working environment, expectations from the company: Since our team was short on employees so all of us had to work for extra hours. Although officially my office timing was from 1 pm to 10 pm with a hour long break between 5 to 6 pm. But most of the days we had to work till 11 or 12. Although team members were really supportive and environment was very friendly. Since these were daily reports so company expected us to finish all the report by EOD. No rollover of pending reports.

Academic courses relevant to the project: None

Name: BHARADWAJ PASUPATHI (2018AAPS0322H)

Student write-up

Short summary of work done during PS-II: My daily activities involved running daily reports to deliver to onshore teams to monitor risk in collateral settlements. Towards the end of the project I was also involved in some automation work which I did with python using packages like pandas and pywin32.

Tool used (Development tools - H/w, S/w): Excel, Python.

Objectives of the project: Assist day to day report and automate wherever possible.

Major learning outcomes: Learnt how UBS group operations works. Collaborated with various stakeholders to make sure all data sources were proper and there is timely delivery of projects. Got practical experience in automation.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was good. Colleagues were supportive and assisted as and when required.

Academic courses relevant to the project: NA

PS-II Station: Udaan, Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: RAHUL SHAH (2017B1A41018P)

Student write-up

Short summary of work done during PS-II: For every trip which has been breached, I will do a study of all the events (Transit alert, Placement breach alert) that happened in the trips and establish trends of the events.
-Study breach data at lane level.
- Summarise the events that happened just before the ETA / ATA at the destination.(ETA is

estimated time of arrival, ATA is actual time of arrival).
Configuration of checkpoints between running and active routes based on the density of alerts generated using clustering algorithms. Create a heat-map view of the average speeds between checkpoints that were generated by the algorithm to see movement of vehicles.

Tool used (Development tools - H/w, S/w): Python, SQL, MS Excel, R, Node and React.

Objectives of the project: Creating a predictive analytics model.

Major Learning Outcomes: Got to learn about predictive analytics and machine learning algorithms

Details of Papers/patents: -

Brief description of working environment, expectations from the company: Good Work Environment and supporting team members.

Academic courses relevant to the project: None

Name: SHRUTI KUMARI (2017B2A11052P)

Student write-up

Short summary of work done during PS-II: I had associate product management role where I was majorly involved in the 2 new products that Udaan is developing. My exact contribution to the team was:
1. Building organic install channels for the products:
a. In-App channels: Design improvisation within the app to encourage sharing
b. WhatsApp campaign and regular push notifications focused on win back, sharing referrals
2. Ideating product features to improve the product engagement
3. Understanding user's pain point:

a. Problem statement focused user interview for pin-point interaction and evaluation of priority for product roadmap
b. Identification of product bug based on feedback from FreshDesk

Tool used (Development tools - H/w, S/w): MixPanel, MS Excel, CleverTap.

Objectives of the project: To improve the retention, engagement to the products and bring down the marketing cost by building sustainable organic installation channels.

Major learning outcomes: Operating product analytics tool, MixPanel to track product's progress and defining success parameters:
a. To fully understand how our users engage with our product and to see what they like or dislike and hence taking decisions to improve engagement and retention.
b. Knowledge about product journey and product analytics parameters to measure the overall performance.
2. Understanding of GST Regulations and Cheques Management System:
a. Understanding the aspects of the GST taxation system and how our product can solve these complications for a layman user.
b. To recognize the pain-points of a heavy cheque user, such as ledger-maintenance and reminders to avoid bounce cheques, and hence ideating the product roadmap.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was lucky to have landed in a team that was building a product which was 3 months old. So I have seen the product grow since its baby stage and was involved in all the major changes that happened. Also this was the first time Udaan took in a product intern. The work environment is amazing. My manager sometimes went extra mile to support my ideas. Its always your duty to take initiatives and convince people why your idea is good and why it should be implemented. People here are not rigid with their thoughts and are open to changes. The same behavior is expected from you as well. I was given the ownership of what I did since day 1. Also its very important that you are sincere and honest about your work and most important trait is the sense of ownership.

Academic courses relevant to the project: NA

Name: KSHITIZ KASHYAP (2018A2PS0141P)

Student write-up

Short summary of work done during PS-II: I worked under 4 different managers. The major project was Cost to Serve which would help is to determine cost to serve per unit of goods to any buyer. Basis the learnings we can develop our services accordingly. Apart from this I was involved mostly in Adhoc analysis on a daily basis. Major adhoc done were to decide if we want to continue credit card as payment option or not, trade credit adhocs, etc. The last piece I worked was on Seller Analytics, the objective of which was to improve buyer experience on app and site by removing listing which are junk.

Tool used (Development tools - H/w, S/w): Google data studio, udaan internal platforms,etc.

Objectives of the project: 1) To menu price our services based on customer needs 2) Delist non useful listings from the platform 3) analyse the transaction pattern of TC buyers, etc.

Major learning outcomes: Financial modeling, logic building, etc.

Details of papers / patents: The work was similar to of an full time employee. No paper/patent involved.

Brief description of working environment, expectations from the company: The working environment was good. Managers were highly supportive and cooperative. They keep in regular touch with you. You would have multiple interactions with them daily. Apart front this you would also get to interact either most of the teams while working. The company expects you to work as a full time employee. It may seem hectic as the working hours on most days are from 10-7/8.

Academic courses relevant to the project: Supply Chain Management, Business Analytics.

PS-II Station: UST Global- Trivandrum, Thiruvananthapuram

Faculty

Name: Sindhu S

Student

Name: YASASWI THOTA (2017A3PS1204H)

Student write-up

Short summary of work done during PS-II: I was given thorough training in multiple areas of Web Development, mainly front-end which includes HTML, CSS, JS, and Angular. My main project was to develop an application named the Minutes of the Meet (MoM) Generator for use in official meetings. It was designed to accept an input of an audio file and convert it to text by making use of specific machine learning models. The website consists of two pages, a landing page and a results page. The landing page contains a recording feature and upload file option. The results page is made up of two tabs. One tab has a brief summary of the meeting and the other includes a table of delegated tasks to the employees along with relevant information such as serial numbers, task description, target date, etc. In the meeting, if a speaker informs a specific employee that they have to do a particular task, that information will be updated on the results page of the application. This is extremely useful in case someone is absent from a meeting, they could easily visit the website to get an overview of what they missed along with their assigned tasks.

Tool used (Development tools - H/w, S/w): HTML, CSS, JS, Angular, Visual Studio Code, Firebase.

Objectives of the project: The objective of my project was to provide greater connection among the employees of a workplace. If someone is unable to attend an important meeting, by making use of this application, they will be able to clearly understand what they missed. This will ensure

that they can smoothly perform their assigned tasks while staying up to date with their team, thus improving the efficiency and productivity of the working environment.

Major learning outcomes: I became confident in successfully developing complex websites with various features by making use of frameworks.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: My mentors were very supportive and friendly. During training, they understood that I was new to the field of Web Development and made sure to go at a reasonable pace so I could learn the concepts in an effective manner. We were allowed to contact them at any time regarding doubts that we had or issues that we were facing. I was given creative liberty while designing the website along with sufficient time to finish it. The HR representative who was in touch with us ensured that we were comfortable throughout the duration of the internship. Overall, the working environment was encouraging and open towards new ideas.

Academic courses relevant to the project: DSA, OOPs.

Name: SOURABH GUPTA (2018A3PS0531P)

Student write-up

Short summary of work done during PS-II: I was given a project to work on MoM generator in which I have to create a Full-stack web application of an ML model which converts audio to text and displays the output into two sections: Summary and the To-Do list. After the first project was completed I was allotted another project to create a front-end of an ML model which generates caption for an image.

Tool used (Development tools - H/w, S/w): HTML, CSS, TypeScript, Angular, Bootstrap, NodeJs, Firebase.

Objectives of the project: To demonstrate the advantages of Angular and the applications that can be built using this powerful framework.

Major learning outcomes: HTML, CSS, Angular, Bootstrap,TypeScript and NodeJs were the software-oriented learning outcomes along with professional communication, teamwork, time management etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is conducive to learn new technologies, inventing new and better ways to solve problems. People are supportive and ready to help whenever you need it.

Academic courses relevant to the project: Object Oriented Programming, Database Systems, Data Structures and Algorithms.

Name: APOORV SINGH (2018A3PS0640G)

Student write-up

Short summary of work done during PS-II: My project was based on blockchain Technology in which I created a prototype of Supply Chain Management System. In the first month of internship I learned about Blockchain as I was new in the field then we were given some tutorials to learn solidity which is the programming language used to create smart contract. After that I built some dummy projects just to get hang of the language and the environment. In the last two months of the PS2 I worked on my main project topic.

Tool used (Development tools - H/w, S/w): Truffle, Ganache, Solidity, JavaScript, ReactJS.

Objectives of the project: The objective of the project was to create a prototype of a supply chain management system that uses blockchain technology at backend to create a more transparent, traceable and efficient system.

Major learning outcomes: I learnt a lot of new things in Blockchain, different frameworks, librarys and programming language for the project. I got to learn how Blockchain works and what are its future implementations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My PS 2 was completely remote, but I got to interact with some of the employees of the company. The onboarding process was smooth and easy. We were assigned mentors according to our project domains, and we had regular meets reagarding the projects. The mentors were very helpful in clearing the doubts and guiding us in the right directions. At the end of the internship we had a presentation meeting in which we had to present our work to the manager of the company. The working environment was good and the mentors alloted to us were really helpful. Overall it was a wonderful experience though being completely online.

Academic courses relevant to the project: OOP, DSA.

PS-II Station: VenueMonk (PurplePatch Online Services Pvt. Ltd.,), Gurugram

Faculty

Name: Pradheep Kumar K

Student

Name: TANISHQ DHANUKA (2017B4A11501H)

Student write-up

Short summary of work done during PS-II: Extensively worked with nodeJS and MongoDb, writing api, testing and getting to know libraries.

Tool used (Development tools - H/w, S/w): NodeJs, MongoDb, Jenkins.

Objectives of the project: To build a financial tool to help companies find investments.

Major learning outcomes: Good coding practices, reuse ability of the code.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very peaceful working environment, daily calls in the morning to update the status and get unblocked from problems arising, CTO guided us personally, taught us best coding practices, tools used by the company.

Academic courses relevant to the project: DSA.

PS-II Station: Versa Cloud ERP Inc - Tech, Portland

Faculty

Name: Ramakrishna Dantu

Student

Name: CHINMAY CHOUKSE (2017A8PS1925G)

Student write-up

Short summary of work done during PS-II: We have been able to develop a working sales forecasting model that has been integrated into the flask application and is hosted on AWS. We also have used API's which basically push the data to the main Versa Rails application. This data can either be the predictions or even the ABC analysis. After the API has been pushed the data is successfully visible to the user who is basically a customer of Versa. We also developed the front end by designing the UI on balsamiq cloud and integrating it to the Versa application. We also made few buttons so that the user can interact with the sales forecasting module.
We also developed the visualizations i.e., the charts and graphs for the predictions. We started working on the widgets and managed to propose 9 widgets and have built a data model and integrated everything on to the Versa Rails Application. A detailed and comprehensive user guide was created for the benefit of the customer for them to get familiarized with Versa's software and features. This contains guides for navigation, basic definitions, information regarding subscriptions and troubleshooting.

Tool used (Development tools - H/w, S/w): Machine Learning, Web development, Database management, Data Science, Flask, PostgreSQL, AWS, Pandas, Ruby on Rails.

Objectives of the project: To implement a sales forecasting engine using ML, build a classification matrix called ABC analysis, and a dashboard to manage inventory effectively, measuring various vital metrics.

Major learning outcomes: Communication Skills, Project Management, Critical and creative thinking, DBMS.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very flexible and very supportive. You will be allowed to work as you like and lets you discover the solution to their problem statements on your own. The CEO of the company was directly taking all the presentations and weekly working review under him was extremely helpful with whatever we needed. Their was minimal pressure and maximum freedom to come up with new ideas and deliver the best possible product. Overall a great experience.

Academic courses relevant to the project: CP, OOPs, DBMS, Machine Learning, AI.

Name: SAKETH SAI MALLEPADDI (2018A8PS1027G)

Student write-up

Short summary of work done during PS-II: Inventory Management is on of the most important part of versa solutions. As interns we were tasked with two jobs one being the development of a sales forecasting engine and secondly a few widgets to accompany along. The goal of the sales forecasting engine was to predict future sales of a particular part out of a huge inventory based on historical sales data that Versa's customers have. So, that Versa's customers could understand the upcoming demand for their products and could efficiently plan and maintain their inventory. The goal behind integrating widgets was that Versa wanted to help its customers understand their inventory and its status in a easy to read and understand format.
For the Sales Forecasting project we extensively researched about different models and decided upon an ARIMA (Auto Regressive Moving Average) based model called SARIMA (Seasonal Auto Regressive Moving Average), the seasonal aspect was added by us because of the seasonal nature of how businesses run. We along with the forecasting using SARIMA model or sales forecasting added another feature called ABC analysis which is explained extensively as we go through the document. For the Widgets we proposed a few widgets which will be extensively talked about in the following report. It would cover topics like which metrics they would measure and how would they benefit the customer and the type of widget and the formulas that would be used to arrive at the metric shown to the customer.

Tool used (Development tools - H/w, S/w): Ruby on Rails, PostgreSQL, AWS EC2 Ubuntu Instance, Python, Pandas, Machine Learning.

Objectives of the project: To implement a sales forecasting engine using ML, build a classification matrix called ABC analysis, and a dashboard to manage inventory effectively, measuring various vital metrics.

Major learning outcomes: You'll learn how to develop and build products from scratch keeping the user's requirements in mind.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company expects you to design products based on user needs and to keep product features up to date. You'll be handed sole control after considering client feedback (bottom-up approach)of the product you're constructing. The tech lead will not be heavily involved in the project, but he will provide ideas on how to proceed with the project The mentor meets with you once week to discuss your progress and issues. You are free to start new projects that you believe would benefit the user and the community by relying on the mentor's advice.

Academic courses relevant to the project: OOPS, DBMS, C programming.

Name: SAIPRANEETH REDDY MAALLEM (2018AAPS1233H)

Student write-up

Short summary of work done during PS-II: Created a sales forecasting engine with which the user can use to predict sales. Along with this a set of widgets and metrics were proposed to work along with this forecasting engine to aid the customer.

Tool used (Development tools - H/w, S/w): Ruby on Rails, PostgreSQL, Python (Pandas), AWS EC2, Machine Learning (SARIMA).

Objectives of the project: To implement a sales forecasting engine using ML, build a classification matrix called ABC analysis, and a dashboard to manage inventory effectively, measuring various vital metrics.

Major learning outcomes: Learnt communication skills, public speaking, how to work in a team environment, learnt software skills like PostgreSQL, Machine Learning, Ruby on Rails, Python, HTML, CSS, JavaScript, developing new ideas and implementing them.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment was extremely pleasant and flexible. Self management is expected. Weekly demos are expected. Great place to express ones ideas and implement them.

Academic courses relevant to the project: CS F111 (C Programming), CS F213 (Object Oriented Programming), Machine Learning, Fundamental of Data Science, Database Management Systems.

Name: ANOOP ADUSUMILLI (2018AAPS1240H)

Student write-up

Short summary of work done during PS-II: Built a React Native mobile app for Inventory cycle. counting.

Tool used (Development tools - H/w, S/w): Javascript, React Native, SQL, REST APIs, Git, VS Code.

Objectives of the project: Multi-platform mobile app for Inventory Count.

Major learning outcomes: Software Development

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It's a remote job. They provide you with the use case at the beginning of the internship. You are free to choose the project you're interested in. Friendly Management.

Academic courses relevant to the project: CP, OOP.

PS-II Station: Viacom 18 Media Pvt. Ltd., - Digital Ventures, Bengaluru

Faculty

Name: Ramesh Venkatraman

Brief write-up on PS-II station: 1. The 12 students allotted to Viacom 18 for PS-II have been working on OTT Platforms and related areas.

2. The students have met the expectations and at times exceeded the expectations of their respective Managers in Viacom 18.

3. A basic course on Digital Marketing may help them to have an headstart in this area.

4. I have followed the below approach to help them acquire relevant domain skills:-

(a) An assignment at the beginning which is focused on the OTT platforms and related areas.

(b) An assignment after the mid-sem which is focused on understanding and applying the industry trends in OTT platforms and related areas.

5. I have set the below expectations to the students at the beginning itself, during orientation, which has helped them to stay focused:-

(a) First 1 to 2 weeks: Quick learning of the relevant domain, technology and work culture and start delivering as quickly as possible.

(b) Till mid-sem: Focusing on delivering the regular activities in a steady-state mode with high quality and on time.

(c) Beyond mid-sem: Focusing on adding value by introducing new ways of working based on industry trends and innovations.

Student

Name: AKSHAY MAHESHWARI (2017B2A10564P)

Student write-up

Short summary of work done during PS-II: Work at Viacom18 Digital Ventures, was a combination of ad-hoc tasks, certain routine activities and possibly a major project.

1. Routine activities include providing weekly updates on performance of tentpole content properties, creating presentation for monthly reviews that are then showcased to the leadership team (including COO, Business heads)
2. Ad-hoc tasks involve fulfilling any sort of data/insights requirement made by stakeholders all across Voot. These also include tracking User Journey to identify which features provide higher content consumption.
3. Working on a major project like what should be Voot's audience strategy in the future to compete with other network backed OTT platforms.

Tool used (Development tools - H/w, S/w): Mixpanel, MS-Office.

Objectives of the project: Content strategy and Engagement Analytics.

Major learning outcomes: Understanding of how data analytics drives decision making in the OTT industry. Complete control of the data analysis pipeline, from extraction to transforming to loading the data into a presentable format.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Great place to be at from a learning perspective. Work tends to exceed office hours on a regular basis, but the people are great and you will have the freedom to experiment and collaborate with various teams.

Academic courses relevant to the project: None

Name: SHIVANSHU TEWARI (2017B2A10634P)

Student write-up

Short summary of work done during PS-II: Content Strategy, data management and engagement analysis.

Tool used (Development tools - H/w, S/w): MS Excel, Mixpanel, App Annie, Youbora, MS Powerpoint.

Objectives of the project: Content Strategy and Engagement Analysis.

Major learning outcomes: I got to work with a lot of data. I learnt how to draw insights from the data which can help us to increase engagement in our platform.

Details of papers / patents: I didn't write any papers.

Brief description of working environment, expectations from the company: During my internship I worked with large amount of data. My responsibility was to send out the daily reports and to draw insights on various shows. Since VOOT acquired many sports league during time of my intern, I got an opportunity to learn how things are done in the backend. My job was to give proper insights on how sports assets are performing and give strategies which can be used to increase the consumption of those assets. There is a lot of scope for learning on how business work and a lot of ownership is also given, if you are taking initiative.

Academic courses relevant to the project: No courses relevant.

Name: SARMISHTA MADABUSI THODUR (2017B2A11401H)

Student write-up

Short summary of work done during PS-II: Data Analytics for the Digital Media Field. Preparing monthly reports, analysing them and coming up with insights, making projections, tracking uploads, content planning, analysis of experiments conducted.

Tool used (Development tools - H/w, S/w): MS Excel.

Objectives of the project: No specific project. Ad hoc work.

Major learning outcomes: Analytics, projections, features of MS Excel, report generation, presentation, mails.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very good work environment. People are very easy going and friendly. My mentor helped a lot in learning the ropes in MS Excel tools, analysis and mails.

Academic courses relevant to the project: NA

Name: RAJALAKSHMI C (2017B2A41725H)

Student write-up

Short summary of work done during PS-II: 1. Worked closely with the Client Success team on media strategies for the clients' products with respect to the OTT segment
2. Created Post-Evaluation Reports and Pitching decks by collaborating with the Ad Sales and Operations team
3. Created and managed Excel Dashboards to understand user behaviour and analyzed the decisions that affect the functioning of the app

Tool used (Development tools - H/w, S/w): MS Excel, Python-Jupyter Notebook, Mixpanel.

Objectives of the project: Voot being Viacom18's AVOD, makes money by selling ads on their videos like video commercials, banners, sponsored content and many more. The Client Success team of Voot work on creating data narratives and sales strategies. Essentially, any decision that affects the app's functioning must be backed up with data. Campaign Insights and Post Evaluation Reports are created to enable our clients to work on media strategies for their products with our inputs concerning the OTT segment. There is a need to understand user behavior and suggest changes that could bring in more revenue based on what the team uncovered from the data.

Major learning outcomes: 1. Software - Excel, PowerPoint, Python- Jupyter Notebook
2. Business functioning (terms, hierarchy, backend processes, client-facing talks) and culture
3. Fluency with Mixpanel and MS Excel
4. Extracting desired data and coming up with graphical representations by interpreting the obtained data
5. Froundly improved public speaking skills, confidence boost and the ability to optimistically face the raw real world

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great employee culture, well-established processes, smart folks to work with, you can always switch roles within the organization.

Academic courses relevant to the project: MS Excel, Python Programming.

Name: SANYUKTA JAIN (2017B2A70145G)

Student write-up

Short summary of work done during PS-II: Data analysis of user behavior on the platform to grow the acquisition, retention, monetization journey on the platform. Work with the Voot monetization product team on multiple aspects of product development and improvement. Understand user behavior, improve user retention and implement new product features.

Tool used (Development tools - H/w, S/w): Mixpanel, CleverTap, MS Excel, Netcore, Karix, Balsamiq.

Objectives of the project: Data analysis of user behavior on the platform to grow the acquisition, retention, monetization journey on the platform. Work with the Voot monetization product team on multiple aspects of product development and improvement. Understand user behavior, improve user retention and implement new product features.

Major learning outcomes: Learnt how to analyze data about user behavior on the platform so that we could improve the acquisition, retention, monetization journey on the platform. Understood the multiple aspects of product development and implemented new product features.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is nice and everyone encourages learning.

Academic courses relevant to the project: Business Communication.

Name: ISHAN KHASNIS (2017B4AA1560H)

Student write-up

Short summary of work done during PS-II: 1) Understood the whole user journey for Voot TV applications and built and led a UX Research charter within the TV product team with the support of Designers. As part of this initiative, I was able to keep users at the center of the product as they should be and build the application as per their need and requirement.

2) Worked with product, design and engineering team to re-design the carousel for the home screen on Voot which led to an increase in click through rate on the carousel by a few percentage points.
3) Worked with Amazon Alexas product team to improve the discovery of content on Voot through Alexa voice search. Also set up a process in place where Voots content team would share new content with Amazon well in advance to avoid any issues in voice search when the content goes live.
4) Revamped the payment flow on Voot since it was understood from user research, user data and competitor benchmarking that the payment flow on Voot currently is very tedious. Came up with a solution to fix this problem and worked with external payment vendors to ensure technology implementation leading to multiple incremental orders per day.
5) Worked on documenting all features through PRD, maintained product analytics to review health of TV apps with management and prepared multiple decks to be shown in monthly review meets to the COO.

Tool used (Development tools - H/w, S/w): Mixpanel, JIRA, Miro, Excel, Word, Powerpoint.

Objectives of the project: The project was aimed at improving the experience for roughly 1 million users Voot has on its TV product ecosystem across Android TV, Apple TV and other platforms such as Samsung, Sony, LG etc. I was a part of the TV Product team which was responsible for the end to end delivery of the TV Applications. In the project, I worked on BAU tasks such as product analytics, documentation, reporting as well as on individual product interventions such as payment revamp, carousel redesign, tracking customer complaints and reducing TAT for it etc which were aimed at improving the Voot app.

Major learning outcomes: Understood how to do user research, product analytics, write product requirement documents and job stories, work with cross functional teams to deliver on a project. Also learnt corporate ethics, time management and furthered my communication & presentation skills while also picking up on Mixpanel, JIRA, Excel as some of the software skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The TV Product team at Voot is extremely supportive and collaborative. They included me as a full time team

member and provided with me with sufficient amount of training and guidance in the early days to understand the ecosystem and pick up on necessary skills. After this, I was given individual ownership of certain tasks with support from my manager and mentor. There is freedom to express your opinion which gets considered in product decisions and the projects I worked on were impactful to the organization.

Academic courses relevant to the project: HCI

Name: PINGALI NIHARIKA SHANKAR (2017B5A41139H)

Student write-up

Short summary of work done during PS-II: Digital marketing for subscription based video on demand platform. Data analysis of Google Ad campaigns, tracking metrics and costs of advertising.

Tool used (Development tools - H/w, S/w): MS Excel

Objectives of the project: To track and identify causes behind poor performance of ad campaigns.

Major learning outcomes: The building of marketing Pay Per Click campaigns.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Consistent work, many routine tasks and the company spends enough time in training and pre-project preparation.

Academic courses relevant to the project: Busines communication.

Name: KUSHAL PANDEY (2018A4PS0521P)

Student write-up

Short summary of work done during PS-II: My work was as a business analyst in their revenue management team. The work was basically to find out insights for the business team to take action. During the last month I began working on strategies to improve the viewership and revenue from their movies category.

Tool used (Development tools - H/w, S/w): Mixpanel, Excel.

Objectives of the project: Find insights from data to increase viewership and revenue.

Major learning outcomes: Coordinating with teams to get things done and working on forming strategies to grow a category.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: You will be expected to work just as a normal employee. Sometimes the work hours might seem long especially considering the fact that we are just interns. As the team is small you get to be involved in a lot of decisions. However, as the pace of growth of the company was slow, hardly anyone got a PPO from the company.

Academic courses relevant to the project: Business management.

PS-II Station: VMware Software India Pvt. Ltd., Bengaluru

Faculty

Name: Chandra Shekar R K

Student

Name: TAEEB BANDWALA (2017A7PS0940G)

Student write-up

Short summary of work done during PS-II: Complete tasks assigned: Explore and provide deliverables for VMworld, 2021 to showcase edge deployments of ML workloads using toolkits like OpenVINO demonstrating use cases like face mask detection; Explore, understand and report what it takes to build an orchestrator service that can deploy ML inference workloads across multi-cloud systems, Complete a POC demo on the same, Perform OpenVINO benchmarks on designated targets.

Tool used (Development tools - H/w, S/w): Intel OpenVINO, Tanzu Community Edition, Tanzu Mission Control, Python, TKG, vSphere, vTaas, Octomiser by OctoML, Python SDKs for K8s, Docker, Octomiser, BentoML.

Objectives of the project: Understand and explore ML optimisation toolkits like Intel OpenVINO, Provide deliverables that can be used to showcase face mask detection on edge device in VMworld, Explore Octomiser, Tanzu Mission Control, vSphere and K8s APIs to create an orchestrator service that can deploy ML inference workloads in a multi-cloud K8s context.

Major learning outcomes: Exploration, Learning ML optimisation toolkits like OpenVINO, Octomiser, Training Yolo Object detection model for custom use cases, Understanding how to programmatically perform orchestration for ML deployment using different APIs and SDKs.

Details of Papers/patents: VMware internal paper for RADIO-2022 being formulated on the orchestrator script.

Brief description of working environment, expectations from the company: Good work environment with very supportive manager and colleagues. One needs to be self motivated to follow-up and ask for tasks and role in projects and also to work independently if required.

Academic courses relevant to the project: Machine Learning, NNFL.

Name: AASHAY GARG (2018A7PS0004P)

Student write-up

Short summary of work done during PS-II: The project alotted to me could be categotrized into feature addition, service hardening and application testing. Feature addition involved writing and supporting changes being made by the organisation to improve functionality, service hardening comprised of increasing security for the already present code doing away with pre-existing vulnerabilities, while application testing involved writing test cases for newly made changes.

Tool used (Development tools - H/w, S/w): Jira, Jenkins, Spring, Kubernetes, Cucumber, Git.

Objectives of the project: To understand the working of the code, learning hierarchies and code pipelines, and understanding the technologies used.

Major learning outcomes: Understanding the workings of a professional environment, the technologies used, soft skills, and writing, organization and debugging of code.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The companies allows students to onboard and get acquainted with the workings of the organization. Each project given to the student comes with a different mentor that is an expert at the workings behind the project, provide immense support in times of need and when the intern/student feels stuck. While all projects come with deadlines, these deadlines are often moved sooner or later than the deadline on the basis of the amount of time needed by the student to complete the project.

Academic courses relevant to the project: OOP, DSA.

Name: PARVOTHINII MANNOJ (2018A7PS0240H)

Student write-up

Short summary of work done during PS-II: The work requires us to learn spring boot, micro services. Then later we got 1st project, have to create dashboard templates for workspace one intelligence. I have created 11 apis to that service including widget templates. After that I tested them in staging and finally merged them. 2nd project requires us to learn antlr v4. I have created a new operator "Does not Contain" in all the databases. In the way solved inconsistencies with elastic search and redshift, presto.

Tool used (Development tools - H/w, S/w): Java, Spring Boot, Micro Services, Jenkins, Antlr v4, TestNG.

Objectives of the project: Create 11apis for dashboard templates, Add "Does not contain" operator for all databases.

Major learning outcomes: Spring boot, Rest apis, Antlr v4, Team work.

Details of papers / patents: None

Brief description of working environment, expectations from the company: At first 1-2 months they don't care or give you any work(only training). Everyday you have to give your updates in daily stand-ups. After learning, they assign you the project which they will monitor closely. They expect regularity, updates, problem solving skills and vocal about problems.

Academic courses relevant to the project: C language, OOPS, DBMS, Software Engineering.

PS-II Station: Wavelabs Technologies, Hyderabad

Faculty

Name: Jyotsana Grover

Student

Name: MEHUL JINDAL (2017AAPS0415H)

Student write-up

Short summary of work done during PS-II: Got to work on real issues in Facebook's Magma project. In the beginning we were given some learning tasks. As the time progressed we were moved to testing 5G call flow and PDU session stress testing. In the later half, with the help of my mentors delivered some PRs which included some features and some bugs.

Tool used (Development tools - H/w, S/w): Git, Vagrant, VirtualBox, Debian, Gmock/Gtest, Python, C/C++, GRPC, Open vSwitch.

Objectives of the project: Provide IPv6 functionality in 5G UPF, provide 5G stress test script, resolve bugs etc.

Major learning outcomes: Git, Vagrant, VirtualBox, Debian, Gmock/Gtest, Python, C/C++, GRPC, Open vSwitch.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Every person, especially the mentor was really helpful. Seniors quite literally were ready to spoon-feed to get us up to speed. They didn't mind if they had to go over a topic a number of times. As for expectations, they are tailored to how much load the intern was willing to take up, they gave a lot of time to get eased into the environment and workload. Ample resources were provided for every tool/

framework needed for the task at hand. It was a kind of learning experience that anyone would ideally want from a station.

Academic courses relevant to the project: Networks and Communication, Introductory Programming, OOPs.

PS-II Station: William O Neil India Pvt. Ltd., - Equity Research Documentatios, Bengaluru

Faculty

Name: Gaurav Nagpal

Student

Name: AKSHAY SHEKHAR (2017B1A40871G)

Student write-up

Short summary of work done during PS-II: I was a part of the equity research team and my main project was to make a sector report on the Infrastructure industry. Apart from this I was also working as a part of a team and had to make a detailed report on the supplier companies for the F35 project . Further I made reports on the copper industry as to which countries/regions were the leading producers , consumers. And lastly I had to make a product analysis report of the company (William O Neil) itself.

Tool used (Development tools - H/w, S/w): My job was research related so the tools used were the ones that the company provided us with. William O Neil gives you access to certain softwares such as Panaray, Bloomberg, Datagraphs which help you in finding and analysing what you've found.

Objectives of the project: My main project as I mentioned already was, making a sector report on the Infrastructure industry. In this project I had to use the porters five analysis forces to compare the status of the infrastructure industry of different regions.

Major learning outcomes: Learnt how to use porters five force analysis in practical problems. Got some coding experience in python and R. Got to know about the company, the products that they give to their customers and was allowed to use my imagination to come up with ideas to make these products even better.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company expects the interns to come up with new fresh ideas ,hence the intern is straight away given the job of making a sector report (which more experienced people in the company do). The idea is not to make an excellent first report as that would be literally impossible in your first attempt, but make a report where you can come up with out of the box ideas which other regular analysts might not have come up with. The work environment is good, although I was an intern during covid times, hence was never able to experience in office environment.

Academic courses relevant to the project: I had done a finance minor, hence all those courses came in handy while working for the company.

Name: AKSHAY SHEKHAR (2017B1A40871G)

Student write-up

Short summary of work done during PS-II: I was an equity research analyst at William O Neil and made the following reports during my time there: 1) William O Neil India product analysis report 2) Copper Industry sector report 3) Infrastructure industry sector report 4) F35 project supplier report.

Tool used (Development tools - H/w, S/w): Panaray, SQL, Python.

Objectives of the project: The projects were typical to the ones done by any equity researcher at the company. Hence PS2 helped me in understanding what exactly an equity research analyst does.

Major learning outcomes: 1) How to work in a team environment 2) Different coding languages like SQL, Python,Java 3) Learnt a lot about the company itself, how the company shortlists the major stocks and highlights it to their customers using apps like Panaray.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: I worked in a team, where the one incharge always pushed you to do the best you possibly can. The company is small so you get to deal with real life situations a lot more as compared to the bigger companies. My PS was work from home so there was not a lot of face to face interaction, but in general the team was very helpful and helped whenever needed.

Academic courses relevant to the project: All the finance minor courses were really handy when it came to this PS.

PS-II Station: William O Neil India Pvt. Ltd., - Tech, Bengaluru

Faculty

Name: Paramesw Chidamparam

Student

Name: ARKIN SANGHI (2018A3PS0416P)

Student write-up

Short summary of work done during PS-II: Involved in backend work for Portfolio Analysis platform, along with factor research, which involved doing some research, coming with a hypothesis, writing code to generate signals and back-testing the hypothesis. After this, the reports would be generated, analyzed and presented to the rest of the team.

Tool used (Development tools - H/w, S/w): Anaconda, PyCharm, SQL Server Management Studio, Postman, Confluence.

Objectives of the project: Extend functionality of the Portfolio analysis platform. Create events for buy / sell signals to improve portfolio management.

Major learning outcomes: Greatly increased familiarity with Python and SQL. Gained knowledge of technical analysis and portfolio analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very accommodative and flexible working environment, they only expect you to be consistent in completing the objectives and be willing to learn stuff you don't already know. They will provide resources to help you get up to speed. The work is only occasionally intensive so you will definitely find time to do other things as well.

Academic courses relevant to the project: Probability and Statistics, probably some finance courses but I hadn't done any and it was not an issue.

PS-II Station: WILP, Hyderabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: THUMMALA V V SATYA SARAN (2018A3PS0389P)

Student write-up

Short summary of work done during PS-II: The WILP division of BITS Pilani offers work-integrated learning programs for working professionals in various disciplines, including core engineering. The instruction method includes labs, which are offered using remote labs and virtual labs. Remote labs are physical equipment installed on campuses, which need to be accessed by students across the globe. The project involves the development of a suitable interface to enable the students to perform remote lab experiments.

Tool used (Development tools - H/w, S/w): React JS, Django.

Objectives of the project: Design and development of user Interface for remote lab deployment.

Major learning outcomes: Learnt about Frontend development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Mode of work: onsite. Working environment is very similar to the startup, experience in React JS and Django is helpful.

Academic courses relevant to the project: CP.

PS-II Station: Wingman, Bengaluru

Faculty

Name: Swarna Chaudhary

Student

Name: GOLE PRASAD BALKRISHNA (2018A2PS0178H)

Student write-up

Short summary of work done during PS-II: Android App Dev. Developed different features and services for the product.

Tool used (Development tools - H/w, S/w): Java, Python, React Native.

Objectives of the project: Feature additions, making ML models, bug squashing, App developing.

Major learning outcomes: Experience in tech startup.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Friendly and helpful people. Lot of work.

Academic courses relevant to the project: DSA.

PS-II Station: Women Development & Child Welfare Department, Hyderabad

Faculty

Name: Sandeep Kayastha

Student

Name: NALLAMILLI SUMEDHA (2017B2A11467H)

Student write-up

Short summary of work done during PS-II: The work mainly comprised of social policy analysis. Studied, analyzed and documented child centric schemes of the women development & child welfare department of Telangana, also worked on legal affairs which include show-cause notices and high court affidavits.

Tool used (Development tools - H/w, S/w): MS Office.

Objectives of the project: G-Suite & MS Office.

Major learning outcomes: Government Policies, Schemes, Functions.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Exceptional presence of mind with high logic and appropriate communication .
The Department expects candidate to be self driven with an analytical mindset.
Functions and procedures are intensive and quite tricky and environment includes working with gazetted officers, on ground workforce and consultants.

Academic courses relevant to the project: NA

PS-II Station: Xilinx India Technology Services Pvt. Ltd., Hyderabad

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: PARIKH SHAILI BHAVIN (2017B3A80998G)

Student write-up

Short summary of work done during PS-II: Benchmarking image processing functions for CPU vs GPU.

Tool used (Development tools - H/w, S/w): C++ with Vitis HLS, Digital Image Processing, OpenCV Cuda, Linux Shell.

Objectives of the project: To compare the performance of OpenCV image processing functions across different platforms.

Major learning outcomes: OpenCV image processing APIs, C++, Vitis HLS.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Managers and employees are approachable and helpful with all doubts. Work culture is inclusive and friendly, even in online mode.

Academic courses relevant to the project: Computer Programming, Digital Image Processing.

Name: RITHVIK BALAJI (2017B4A30340G)

Student write-up

Short summary of work done during PS-II: Daily regressoins tracking. Had to find, analyze, fix and report errors. Testing framework was on pytest so had to learn that as well as groovyscript. over the last 4 months I have taken over 5 components one by one.

Tool used (Development tools - H/w, S/w): Pytest, Jenkins, Groovyscript, python, Linux terminal

Objectives of the project: Learnt how automations are run and all the processes.

Major learning outcomes: Have become proficient in Pytest, groovy, terminal. On a personal level feel more confident to interact with colleagues and peers.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment wasn't much as it has been work from home. Hours weren't too stressful. All my colleagues have been really helpful for the most part, answering most questions I had. Initially found it difficult as my particular vertical hasn't had an intern before so most of my team wasn't initially aware of this.

Academic courses relevant to the project: CPP, ADVD, MuE.

Name: KUSHAGRA TRIPATHI (2017B4A30561G)

Student write-up

Short summary of work done during PS-II: Benchmarking of computer vision functions for image and video input for Xilinx GPUs, building a whole app with an ISP pipeline and Deep Learning algorithms.

Tool used (Development tools - H/w, S/w): FPGAs, C++, Linux shell, CUDA, computer vision, OpenCL.

Objectives of the project: Creating a performance benchmark for specific functions on certain FPGAs, making a pipeline of functions for easier video processing.

Major learning outcomes: Opportunity to work on professional code, software development, image / video processing algorithms, neural networks, deep learning algorithms.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The staff is easy to work with, open to ideas and available to guide interns through anything, working hours are flexible and staff is open to accepting and working with any problems you might face.

Academic courses relevant to the project: DSA, Digital Image Processing, OOP.

Name: MADHAV RANGAN B V (2017B5A31103H)

Student write-up

Short summary of work done during PS-II: I was allotted to the Silicon validation division. I worked on Benchmarking suites like the Dhrystone suite, learnt its pros and cons and its structure. After this, I worked on integrating the said benchmarking suite with an existing template for command line applications, modified the template and debugged it. Then, I was introduced to their hardware with several different types of processors, I had to run the aforementioned command line application the hardware and make further changes to the code and monitor

results. I also had to port the application to make it work on other processors. I worked with another person to test a script that would create command line application templates as per the needs of any user.

Tool used (Development tools - H/w, S/w): Xilinx Vitis; RHEL and text editors.

Objectives of the project: To integrate a benchmarking suite to a class of applications.

Major learning outcomes: C Programming Debugging; TCL and Bash scripting; Linux.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company operated in work from home mode because of the ongoing pandemic and I had to install several applications to work and later they sent an official laptop. We had to several applications to work and collaborate effectively. Senior and peers in the company were always very patient and accommodating. The work load was not much and the deadlines were proportional to the type of task given.

Academic courses relevant to the project: CS F111 Computer Programming; EEE F215 Digital Design; EEE F241 Microprocessors and Interfacing.

Name: MADHAV RANGAN B V (2017B5A31103H)

Student write-up

Short summary of work done during PS-II: I was assigned the intern role in the Silicon Validation or SiVal team for PS-2 and my first task was to become familiar with online work from home software and collaboration tools. Use of Linux was prominent among others, then I had to learn about usage of Xilinx's Vitis tool and executing some trivial programs, getting the output and testing them on Xilinx platforms and making basic applications.

I was then assigned a task of creating a command line version of Dhrystone applications, its specifications and a pre-made template which would have to be modified to create the application were provided to me and my colleagues guided me well whenever I ran into problems.
Testing the executables was a bit of a complicated process and my task involved me testing the executable for a particular platform after modifying the given template and I had completed that, then I had to use another method to make the same application for a different platform and different processors. I also had to test some scripts that would automate the entire process of creating the template for command line applications for different platforms, then I had to test some functionalities of devices i.e. test commands. I was also given some other tasks that cannot be described here due to confidentiality. They cannot be disclosed in this report.

Tool used (Development tools - H/w, S/w): Linux, Xilinx Vitis, Emacs.

Objectives of the project: The tasks and responsibilities assigned revolved around the Dhrystone benchmarking suite. The primary goal was to develop a command line interface which can be used to execute the benchmark efficiently and quickly and then test it on Xilinx's hardware. The responsibilities also included assistance of the team assigned and to prepare documentation for the said tasks.

Major learning outcomes: C Programming and debugging, Experience with SoCs, Working in a professional environment.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The mode of internship was WFH. All infrastructure existed and I was introduced and learnt them seamlessly.

Academic courses relevant to the project: CP, Microprocessors and Interfacing.

Name: RAGHAV JINDAL (2017B5A80678P)

Student write-up

Short summary of work done during PS-II: Web development, database backed dashboard for ~100M records.

Tool used (Development tools - H/w, S/w): Python, javascript, Linux, Vim.

Objectives of the project: Search frontend and analytics for ~100m data points.

Major learning outcomes: Data modelling, Python scripting, Llinux OS.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Teams within the company are quite focused on their part, not much interaction outside the team. Teams are also alloted at random. My particular team was quite chill, and if you wanted to learn, there were interesting projects available. Managers are helpful and friendly. Company policies and work culture might feel a bit outdated in comparison to tech giants. Structure and work etiquette is quite formal and rigid compared to IT startups and FAANG. Might like it depending on how much structure you like in such things.

Academic courses relevant to the project: OS, NNFL, comparc, DSP.

Name: RITWIK TIWARI (2018A3PS0364P)

Student write-up

Short summary of work done during PS-II: Writing python scripts for data analysis generated from different circuit simulations. Then, on Cadence Virtuoso software, learnt to do simulations of CMOS Inverter on virtuoso and to observe impact of parameters on its output performance such as rise and fall time, slew rate, switching voltage etc. The above things were done similarly for

ring oscillators and was told to refer to theory come up with explanations as to how the output values varied with changes in parameters.

Tool used (Development tools - H/w, S/w): Cadence, Jupiter Notebook.

Objectives of the project: Technology analysis of 16nm/28nm Ring Oscillators.

Major learning outcomes: The internship helped in polishing the skills in shell scripting, python scripting, effective research of scientific journals for explanations of the results from simulations, Design of Analog components and analysis of active and passive components of the circuits. The WFH setup required the internees to be up-to-date with best practices of online meetings and communicate freely with the mentors.

Details of papers / patents: Alpha Power Mosfet law paper by T.Sakurai and A. Richard Newton.

Brief description of working environment, expectations from the company: The entire internship was work from home. The manager, mentors and supervisor of the company were cordial, helping incase of even the simple doubts. The working environment was excellent, and expectations from the company included to be regular, diligent, focusing on the tasks on hand and sticking to the deadlines.

Academic courses relevant to the project: Analog Electronics, C Programming, ADVD, Microelectronics.

Name: AMBEDPELLIWAR SANKALP (2018A3PS0383P)

Student write-up

Short summary of work done during PS-II: My role was Physical design intern. I was involved in Silicon level testing of a module called "Path Delay module" inside the Versal board. The testing primarily focused on timing parameters related to the programmable path delay block. Target

frequencies were set and were to be tested at Silicon level at different power modes like "full power mode, low power mode" keeping in mind the non-idealities associated with Silicon. The same tests were also done at different PVT corners.

Tool used (Development tools - H/w, S/w): Unix Command Line, Jira, Github, Specific FPGA hardware boards, Microsoft Office.

Objectives of the project: Understand and perform Silicon level testing and validation.

Major learning outcomes: Understanding and performing Silicon level testing and validation.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment was friendly. My mentor gave me enough time to learn all the concepts related to physical design and testing at silicon level. Company expects you to be professional and make good use of the environment provided in both your and their favor.

Academic courses relevant to the project: Analog and Digital VLSI Design, Computer Programming, Computer Architecture.

Name: ANSHUL SOMVANSHI (2018A3PS0405G)

Student write-up

Short summary of work done during PS-II: The work involved the verification of features, developing new test cases for verification and development of some enhancement features for security and Xilinx's platform loader and manager. This involved use of previously available test cases to verify for already present features and develop new ones for new features being developed, I was also tasked with making some enhancement features.

Tool used (Development tools - H/w, S/w): Python, Xilinx Vivado, C++, Pytest, YAML, Xilinx XSDB, Xilinx XSCT, Xilinx SDK.

Objectives of the project: This project aims to develop various test cases which simulate the security breach that can occur in FPGA. This is a part of quality control check which takes place whenever new features are implemented in software. This project also involves the regular use of automation testing software ROAST for the testing of already developed test cases for existing features as a part of quality control. The project is mainly focusing on the development of test cases for security verification for Platform Loader and Manager of FPGAs which is an important component which handles the booting as well as the whole system after boot.

Major learning outcomes: The work involved the verification of features, developing new test cases for verification and development of some enhancement features for security and Xilinx's platform loader and manager. This involved use of previously available test cases to verify for already present features and develop new ones for new features being developed, I was also tasked with making some enhancement features. I learnt how to develop test cases in python using pytest and also learnt in depth knowledge of database using YAML. I also improved my communication and collaboration skills as they were essential in daily tasks.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is good and all employees are helping. The work timings are 9am -6pm which usually extend to 7 on daily basis , so work was on heavy side with sometimes work being extended to 11 pm in night. The company expects you to take responsibility of the work you do which is a positive thing but you need to put in efforts to match it. Also chance of PPO depends on opening in your department which is mostly on the lower side each year.

Academic courses relevant to the project: Computer Programming, Microelectronics.

Name: N HARISHCHANDRA PRASAD (2018A3PS0422P)

Student write-up

Short summary of work done during PS-II: I was part of the software team at Xilinx. Xilinx makes FPGAs. FPGAs (field programmable gate arrays) are programmable logic devices that can be programmed to desired functionality. My team worked on Xilinx Vivado (FPGA programming software). This software does the following - conversion of Verilog designs to logic gates (synthesis), placement (places design modules onto physical blocks on the FPGA), routing (routes signals i.e. makes sure inputs and outputs are available where they are required), generation of bitsream (bitstream is the final output of Vivado, this programs the FPGA). This entire process is called a compilation. This is time consuming, making a small change to the Verilog design would require the repetition of this entire process. Thus, when a small change (<20% difference) is made to the design, an incremental compilation is performed. Incremental compile reuses the results of the original compilation. There is a dashboard (webpage) that displays data about incremental compilations to analyze its effectiveness and make improvements to the incremental compile algorithm. The data for the dashboard is collected using shell scripts that use expression matching to extract data from the log files, timing reports etc. The extracted data is dumped into CSVs and JSONs. The webpage displays the data in these files. I tested and debugged the dashboard. I added some features to this dashboard. I was also tasked with making a similar dashboard for DFX. DFX allows you to change the functionality of the FPGA while it is powered on. DFX allows you to swap out one module for another module. Apart from working on data collection and the webpage, I had to make a suite of designs for the DFX project for data generation. A suite is a collection of designs. This suite runs every week (regression) and these runs generate log files, timing reports etc. that have the required data. I wrote a Tcl script to run this suite.

Tool used (Development tools - H/w, S/w): HTML, Javascript, Shell scripting, Linux, Putty, VNC, Tcl, Perforce, Vivado.

Objectives of the project: Test, debug and improve the incremental compile dashboard. Make a dashboard for DFX analysis.

Major learning outcomes: FPGAs, EDA tools, Web development, Shell scripting.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Everyone in my team was really friendly and approachable. I was never burdened with work. They gave clear instructions on what had to be done.

Academic courses relevant to the project: CP, Analog and Digital VLSI Design.

Name: ADITYA VERMA (2018A8PS0008P)

Student write-up

Short summary of work done during PS-II: Training as a validation engineer. Board designing and Scripting were the main work.

Tool used (Development tools - H/w, S/w): Shell, VIVADO, VITIS.

Objectives of the project: To design a board from scratch and test it.

Major learning outcomes: Concepts of FPGA, Digital design, Board designing, Using Vivado and vitis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Chill working environment, the main purpose of my manager was to make me familiar with all the basic knowledge what a validation engineer should have. Working hours were very flexible and manager never refused any leave applications.

Academic courses relevant to the project: Digital design, Verilog, System Verilog.

PS-II Station: Zeotap India Pvt. Ltd., Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: MUNIGALA SHIVA (2017B3A70494H)

Student write-up

Short summary of work done during PS-II: No formal project was actually given to me till now, instead I was treated as full time employee and was given the same work. Among the many services which our team maintains, I have primarily worked with Data Distributor service. During the initial days, I was asked to build a simple REST API using Play Framework in JAVA, and PostgreSQL as the data base. After that I have done few integrations of new clients with our distributor service which are called channel integrations. Apart from this, I was also assigned some bug fixes and few changes in other services including automation of some steps.

Tool used (Development tools - H/w, S/w): Intellij, github, harness, circleCI, tableplus.

Objectives of the project: To integrate new channels into service and optimize existing flow.

Major learning outcomes: Learnt how to plan the steps, how to find bugs and fix them. Apart from the technical knowledge gained, I have got t experience how a startup fucntions.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: As the mode of working is work-from home, we missed the opportunity to meet teammates and there were no events to socialize, but it is still a good experience as the mentors were always helpful and we had some kind of activity at the end of week. The work hours can be a bit hectic sometimes and even on general days, we will have work for around 6-7 hrs. As this is a startup, we interact with infra/devops team as well to do the deployments and other things which SDE's in big companies are not much involved in. This helped us to gain some knowledge in that field.

Academic courses relevant to the project: OOPS, DBMS.

Name: AYUSHDEEP (2018A3PS0516H)

Student write-up

Short summary of work done during PS-II: Codebase Changes, Ad-hoc Jobs on Big-Data, Data Pipeline Flow Automation.

Tool used (Development tools - H/w, S/w): Python, Scala, SQL, Apache Spark, Apache Airflow, Git, Google Cloud.

Objectives of the project: Unify all IDs under a single user.

Major learning outcomes: Scala, Functional Programming, Apache Spark, Apache Airflow.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good work culture with a supportive environment, freedom to implement ideas.

Academic courses relevant to the project: OS, OOPS.

Name: MAYANK MAURYA (2019H1120044P)

Student write-up

Short summary of work done during PS-II: I was in the infrastructure team as a DevOps intern. My main job were to automate different tasks such as creating list of different unused Google cloud platform projects, unused service accounts and dataproc clusters and send these details in tabular form to the team as cron-jobs at regular intervals. Secondary I was tasked with creating a slack application that would ease and automate the workflow of getting permission or creation of new resources like github repo, google cloud storage, bucket access etc.

Tool used (Development tools - H/w, S/w): Advanced Python, websockets, Rest api, GraphQL, computer networking, Google cloud platform fundamentals.

Objectives of the project: Automate the repetitive requests / tasks to reduce man hour to the company.

Major learning outcomes: Computer networking practical knowledge, advanced Python scripting, learnt GraphQL, websockets, Rest api, application testing, Google cloud platform fundamentals.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Zeotap has a very very good working environment. All the team members were very supportive and were there to help at all times. They pushed the idea of personal growth also apart from the work and held regular weekly meetings in which we would discuss new technologies, share experiences or any thing of our choice that provide a very healthy working environment.

Academic courses relevant to the project: Computer networking, DBMS, Web technologies, Cloud computing, DSA, OOAD.

PS-II Station: Zetwerk Manufacturing Businesses Pvt. Ltd., Bengaluru

Faculty

Name: R S Reosekar

Student

Name: SUDARSHAN DUBEY (2017B2A41346H)

Student write-up

Short summary of work done during PS-II: Corporate development functions as a strategic arm of a company, functions involve developing strategic partnerships, Mergers and Acquisition (M&A) of smaller businesses which could be valuable in growth of company and strategic entry into new emerging markets. The process starts with Industry analysis which is important to form a basic understanding of the sector in which we are looking for clients for partnerships. The project is based on performing an industrial analysis of various industries, like Oil & Gas, Renewables, Railways and Consumer electronics, performing secondary research about the industry and identifying the general industry trends & requirements and preparing reports and database of the strategic partners available in the industry. After the identification of these partners establishing relations with these companies and proposing partnerships. Managing communication between the partner and the Business unit & identifying projects. The project also involves preparing corporate reports for higher management identifying appropriate M&A targets, performing peer comparison and Market analysis.

Tool used (Development tools - H/w, S/w): Microsoft Excel, Pitchbook, Probe 42, Prequin, Volza, Panjiva, Capital IQ, VCC Edge.

Objectives of the project: To find Strategic partners, establish project based long term relationship with them and M&A partners.

Major learning outcomes: I learnt about how corporate development team operates and what are their responsibilities, what are the vertices the company is operating in and understanding how strategies are formed regarding the business growth and how strategic partners are identified and relationships are established. This helped me in developing an understanding of how business is brought to an organization. The proposals and outreach helped me learn how to confidently deliver engaging presentations and proposals to C Suite members of various organisations. I also learnt to perform industrial research and market analysis. I learnt how to analyse various financial instruments and how to prepare Market analysis reports. I learnt to perform peer comparison for M&A targets and for industrial trends analysis.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is a bit hectic, a lot of secondary research and data entry involved, Pitching can be fun but its also takes a lot of patience. The structure of company is a bit odd so you can expect anything in terms of work.Management could be a challange.

Academic courses relevant to the project: Principles of Management.

Name: MIKESH ANAND (2017B3A40721P)

Student write-up

Short summary of work done during PS-II: As a part of the Corporate Development team, I was assigned to perform industry analysis and landscaping, of Transmission & Distribution, Defence & Aerospace, Railway & Metro, Hydrogen, Consumer Goods, and Home Décor Export Houses.

We follow a process to ensure that we are getting credible companies. The process starts with:

(i) Industry analysis:

It is important to form a basic understanding of the sector in which we are looking for clients for partnerships. We go through research reports published by different credible organizations both government and private.

This is done to understand the sector, what is its market size, expected growth rate. Industry analysis also helps in understanding various types of problems and risks faced by the organizations and how they tackle or minimize them.

(ii) Landscaping:

After gaining the basic understanding, we make the list of players in that sector. We ensure that list is completely exhaustive and we have at least all the major players of that sector.

After preparing the list, we find out what type of projects each company have completed in order their credentials which is followed by getting their financials and senior management contact details.

(iii) Outreaching:

After we are done with landscaping, we perform due diligence and shortlist the companies based on their financials and credentials and then reach out to them for partnerships.

Tool used (Development tools - H/w, S/w): Google workspace, Excel.

Objectives of the project: Industry analysis for corporate development.

Major learning outcomes: Learnt basic under standing of different sectors, project management, risk mitigation techniques and how to approach a high profile client.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Zetwerk is a vibrant and dynamic startup with lots of ideas being rapidly tested and implemented and follows a "Say what you believe ideology" which is bringing forward ideas you believe in, never defer to a louder or older opinion or to the status quo; the best ideas come from the most unexpected places and say what's on your mind directly and honestly, don't try to position stuff, don't be passive or hold stuff in. Zetwerk truly believes in collective growth and encourages every to contribute to the growth of the company.

Zetwerk is known for its aggressive and calculated growth which makes the working environment fast. There is an abundance of learning opportunities in presence of highly qualified mentors having a lot of expertise in their fields. All the employees are very supportive and cooperative.

Academic courses relevant to the project: Fundamentals of Finance and Accounting, Business Analysis and Valuation, Financial Management.

Name: ABHISHEK ANIRUDDH CHOUDHARI (2018ABPS0536P)

Student write-up

Short summary of work done during PS-II: Work was based on preparing the contract manufacturing facility in Coimbatore for Flipkart audit and improve processes to comply with the requirements.Flipkart had provided the company with a list of audit requirements with three categories of points: one point, key point and general.To pass the audit and be eligible for orders from Flipkart, the facility needed to implement/improve these points and get a minimum score of 70%.Work was to make and review all the department procedures, records and SOPs to comply with the documentation requirements.To satisfy the operational requirements, worked on implementing few process improvements and basic standards pertaining to the industry like testing capabilities.

Tool used (Development tools - H/w, S/w): Excel, Google sheets.

Objectives of the project: Make the Coimbatore facility of Zetwerk ready for Flipkart audit.

Major learning outcomes: Learnt requirements of auditors and companies and all the department processes.Was present at the factory site even before construction was complete, so was able to witness how a factory is setup from scratch.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Company expects you to be eager to learn and push the factory team for improvements.

Academic courses relevant to the project: Supply chain management, Manufacturing management.

PS-II Station: Zetwerk Manufacturing Businesses Pvt. Ltd., Mumbai

Faculty

Name: R S Reosekar

Student

Name: NAISHADH GOHIL (2017ABA41534H)

Student write-up

Short summary of work done during PS-II: This project focuses on selection and implementation of a CRM tool for Ecosystem – LeadSquared. Various people across the Ecosystem were asked for opinions and a set of lead fields, activities, activity fields and other details were drafted. Complete implementation included the setting up of fields, activities, tasks, automations and processes as per the requirements. This was accomplished with the help of LSQ team. The leads and relevant data were imported from the existing database in Google Sheets. The training sessions for admins, managers and the salespersons were carried for both web as well as mobile interfaces. The sessions were recorded and the videos were sent out to all the users explaining the use of each function step by step. A release note drawing out the benefits of a CRM and the key features of LSQ was sent out to the team which marked the go live phase.

Tool used (Development tools - H/w, S/w): MS Excel, LeadSquared CRM Tool.

Objectives of the project: To successfully implement a CRM tool in the Ecosystem division for lead tracking. It includes gathering requirements from the sales users and managers, testing of various CRM tools which fulfil the requirements, selection of most appropriate CRM tool followed by its implementation using customized features.

Major learning outcomes: Importance of building customer relationships and maintaining them for repetitive business opportunities.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Primary mode of PS was WFH due to pandemic. However, the organization arranged a visit to Bangalore office for one week. Zetwerk provides a great working environment with full freedom. The colleagues, including mentor, were very helpful and supportive for personal development.

Academic courses relevant to the project: NA

PS-II Station: ZILLSKILL Technologies Pvt. Ltd., (New) - IT, Bengaluru

Faculty

Name: Ritu Arora

Student

Name: ANANTH J MENON (2018A4PS0044P)

Student write-up

Short summary of work done during PS-II: My role here was as a front-end web developer. It included working on the main website of the company and its admin table by coordinating with a number of talented developers. It required me to make design changes as well as development

changes across the platform and ensure its proper working. There were also several bug fixes done.

Tool used (Development tools - H/w, S/w): VS Code, Postman, Robo 3T, App Scripts for Google Sheets, Github.

Objectives of the project: The project is a part of bigger project which involved the development of the website for ZIllskill Tech.

Major learning outcomes: ReactJS, Angular, Robo 3T, Github.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Due to the circumstances, the company offered WFH. So everything was handled online through meets and sessions. Despite the unfortunate situation, the company has had a very good working environment with the developers being very supportive and friendly and helping with tasks. Each person is assigned new tasks once the finish the existing ones so that no time is wasted and everyone ensures the completion of tasks within the deadlines. Overall a great place to work.

Academic courses relevant to the project: CP, OOP.

PS-II Station: Zinnov Management Consulting Pvt. Ltd., (Non-Tech), Bengaluru

Faculty

Name: Samata Satish Mujumdar

Student

Name: CHAVAN PRATIK ASHOK (2018A1PS0059G)

Student write-up

Short summary of work done during PS-II: Gather required data using secondary research methods, making ppts for projects I am working on.

Tool used (Development tools - H/w, S/w): MS excel, Powerpoint, linkedin sales navigator.

Objectives of the project: To find the data required by client on existing market, potential competitors, scope of expansion,etc. and present it to them.

Major learning outcomes: Research skills, communication skills, making informative presentation.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment is very good, the mentors and team members are supportive. workload is decent.

Academic courses relevant to the project: RM

Name: BHUWAN GUPTA (2018A4PS0003G)

Student write-up

Short summary of work done during PS-II: Consulting work in the digital sector. Work was mainly doing research and preparing deck for the same.

Tool used (Development tools - H/w, S/w): LinkedIn Sales Navigator, Draup Platform, Excel, PowerPoint.

Objectives of the project: Prepare the overview for the mining industry and the digital initiatives taken. Prepare a deck comparing main cloud providers (Google, Azure and AWS) and their offerings and strategies for various GSI (Global System Integrator).

Major learning outcomes: Learnt about what new things are being done in the digital segment across various industries. Learnt how to use Draup Platform and Sales Navigator. Enhanced my presentation-making skill and technical proficiency in Excel.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was good. Everyone was eager to help and clear the doubts and provide support throughout. In terms of workload, it was a bit hectic but manageable with proper time management.

Academic courses relevant to the project: None

PS-II Station: Zinnov Management Consulting Pvt. Ltd., (Non-Tech), Gurugram

Faculty

Name: Pavan Kumar Potdar

Student

Name: SOURAV A S (2018A4PS0587P)

Student write-up

Short summary of work done during PS-II: I was allotted to Draup, a sister company of Zinnov Management Consulting along with most of the candidates who were allotted the same PS Station. The work was completely online, and it was not hectic by any means. I was asked to create solution documents for certain types of technologies as a part of a NASSCOM project, it required lots of research from the internet and proper document creation for the same. The only requirement was to write proper points and to present them well. At no point did the internship feel stressful and it really did not require any pre-requisite skills of any type. The manager were also very helpful.

Tool used (Development tools - H/w, S/w): MS Word, MS Excel. MS PowerPoint.

Objectives of the project: Solution creation for skill development programs.

Major learning outcomes: Learnt about skill development for different technologies.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company employees were friendly. There was minimal interaction with the employees however because the sort of work involved did not demand much interaction. The kind of work you get is really dependent upon the team in which you are asked to work in. Overall a peaceful PS station from my experience.

Academic courses relevant to the project: None

Name: KARRI VENKATA SIVA KARTHIK REDDY (2018A4PS0666H)

Student write-up

Short summary of work done during PS-II: Initially they alloted me in brain desk team the work there is to work in real time projects along with the consultants. Later, they alloted me to re-skilling team where my whole and soul work is to find errors in companies official platform (Draup).

Tool used (Development tools - H/w, S/w): Linkedin, Linkedin sales navigator, Linkedin Sales Recruiter, Draup Platform, Google, Excel, PowerPoint.

Objectives of the project: To get an idea of what consultants and Research Analysts do.

Major learning outcomes: Got an idea on what skills do we need to go to consultancy firm.

Details of papers / patents: We worked along with consultants in Amazon, Walmart, IBM Projects etc.,

Brief description of working environment, expectations from the company: The working environment is really good. But the expectations from the company is too high.They want the intern to work for nearly10 hours daily from Mon to Fri. Workload is quite high.

Academic courses relevant to the project: No. Every thing is non tech related

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Name: ANGARAJU A JOGI NARENDRA VARMA (2018A4PS0729H)

Student write-up

Short summary of work done during PS-II: The work is HR and Talent Consultancy. We have a platform (website-DRAUP) where we help our customers with Employee, Talent and HR solutions for companies to help their HR departments. We also have consulting wherein we make custom reports and analysis as per the clients requests. I worked on making custom reports for the clients on different topics such as employee sentiment analysis, employee branding strategies, helping in talent acquisition, competitor analysis amongst many others.

Tool used (Development tools - H/w, S/w): Microsoft Suit (MS Excel, Power Point and Word).

Objectives of the project: To successfully complete the client requests and meet their expectations.

Major learning outcomes: Gained insight into HR and Talent Consultancy.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work generally starts from 10 AM onwards and extends till 6-7 PM, 5 days a week. It also depends on the team we are allotted to, project deadlines and other factors. Colleagues and other company mentors are responsive and easy to work with. Internet (Broadband) & Mobile Bills are also reimbursed. Workload is moderate but might get hectic as per the project.

Academic courses relevant to the project: None

Name: BHAWANI SINGH NATHAWAT (2018A5PS1111H)

Student write-up

Short summary of work done during PS-II: Draup, is a sister organization of Zinnov. Fortune - 500 clients approach Draup with requests like how to hire better, how to start operations in a different geography, competitor analysis. The role as an intern will be to assist in creation of reports on the above mentioned topics.

Tool used (Development tools - H/w, S/w): None

Objectives of the project: Prepare reports for the clients as per the requests.

Major learning outcomes: Time management, attrition analysis, talent hiring analysis.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is very good, near project deadlines you may work overtime but on majority of the days work is very manageable. Company expectations are very precise and achievable. You'll get to work on a variety of reports during the internship, and will not be tied down to a single project.

Academic courses relevant to the project: None

Name: BHAWANI SINGH NATHAWAT (2018A5PS1111H)

Student write-up

Short summary of work done during PS-II: Making reports, conducting secondary and primary research and conducting data analysis on data sets pertaining to hiring data.

Tool used (Development tools - H/w, S/w): LinkedIn Sales Navigator, PowerPoint, Excel.

Objectives of the project: Consulting

Major learning outcomes: Get to know about the hiring trends and compensation trends across the world.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Very good working environment, a flat organization people can easily approach each other to clear doubts and work pressure is also not too much.

Academic courses relevant to the project: None
