

# Mohit Sewak

p20150023@goa.bits-pilani.ac.in, (+91)-9028-4-9696-4

## SUMMARY

Mohit is an *Artificial Intelligence researcher* (PhD in AI and *engineer*; an invited *TED speaker*; an *inventor* (lead/solo inventor of more than a dozen AI/ML technology patents filed in USPTO and Worldwide); an *internationally acclaimed author* of multiple *global best-selling book-titles* on AI technologies (like *Convolutional Neural Networks* and *Deep Reinforcement Learning*) published by well renowned technology and *research publication houses*; researcher and author of multiple *peer-reviewed* scientific research and technology white papers in AI/ML and a distinguished *industry-leader* in AI product *innovation, development and engineering*.

Mohit has extensive experience and **technical leadership in AI/ Cognitive products and platform Research**, Architecture, Solution-ing and Innovating IPs for industries ranging from Retail, IoT, BFSI, Retail and Cyber Security.

He has extensive experience in **cutting-edge**, yet *production grade cloud-native AI-infused software* and solutions for Process-Automation, Computer-Vision, and Deep-Learning driven Cognitive-NLP.

Mohit has **15+ years** of **hands-on experience** of delivering **cutting edge innovative solutions** and value to some of the biggest **Fortune-50 companies** and clients worldwide.

## ARTIFICIAL INTELLIGENCE BOOKS AUTHORED

- **Book - Deep Reinforcement Learning** - Publisher - [Springer Nature](#)
- **Book - Practical Convolutional Neural Network** - Publisher - [Packt Publishing](#)
- **Book - IBM Redbook in Big Data and Analytics category on Predictive Maintenance and Quality** - Publisher - [IBM Redbook](#)

## AI&ML PATENTS

- **Patent USPTO US20190318209A1 Title:** Cognitive analysis and classification of apparel images
- **Patent USPTO US20190318304A1 Title:** Cognitive fashion-ability score driven fashion merchandising acquisition
- **Patent USPTO US20190318299A1 Title:** Cognitive fashion-ability score driven fashion merchandising acquisition
- **Patent USPTO US20190318210A1 Title:** Cognitive analysis and classification of apparel images
- **Patent USPTO US20190311415A1 Title:** *Adaptive Multi-Perceptual Similarity* Detection and Resolution
- **Patent USPTO US20190311231A1 Title:** *Multi-Perceptual Similarity* Detection and Resolution
- **Patent USPTO 20150046223, US 13/962371, IN920130069US1 Title:** **Trend-factored RFM** scores to improve campaign performance
- **Patent USPTO 20160085889, IN820130190 Title:** **Probabilistic Simulation Scenario Design** using Multiple Conditional and Nested Probability Distribution Input Functions
- **Patent USPTO 20150332296, SVL920140005US1, SVL820130184, 1021-186US01 Title:** **Predicting Customer Value**
- **Patent USPTO 20150348066, IN820130830 Title:** Business forecasting using **Predictive Metadata**

## RESEARCH PROFILE & PUBLICATIONS in AI

- [Google Scholar Profile](#)
- [Research Gate Profile](#)
- [DBLP Publications](#)
- [Open Access Publications \(arXiv\)](#)

## EXPERIENCE in AI LEADERSHIP

### Microsoft R&D

*Security and Compliance Research*

**Principal Data Scientist**

[May,20 - Till-Date].

- Leading the research in large deep learning and transformers-based models for application in Compliance and security domain.
- Innovating product features for M365 Enterprise products (Applied AI research) in the area of Communication Compliance, eDiscovery, DLP, MIP, and IRM.

### QiO Technologies

*Cloud Native Artificial Intelligence for IIoT*

**Lead Artificial Intelligence Engineer, India, Asia Pacific**

**Reinforcement Learning Engineer**

[Feb,19 - Jan,20].

[Apr,18 - Aug,18].

- As the Lead AI Researcher spear-heading the **research and development of cloud native RL/ AI features** for Industrial Internet of Things (IIoT) and Industrial 4.0.
- **Innovated** Industry 4.0 applications with cloud native technologies to drive the organization's efforts to enter into the **Gartner's Magic quadrant for IIoT**.

**IBM, CBDS (Cognitive Business Decision Support Group)**

[Sep,16 - Mar,18]

Group Manager/Sr. Data Scientist, Cognitive API and Deep Learning

**Sr./Principal Cognitive Data Scientist, IBM Watson Commerce Insights, IBM India Software Labs**

- As the Principal Cognitive Data Scientist for **Watson Commerce Insights** India (IBM Software Group), led the research, prototyping and development of multiple **artificial intelligence** driven feature lines (**Cognitive Commerce**) for omnichannel and eCommerce retail platforms.
- **Conceptualized, researched and designed** multiple features for **Cognitive Fashion feature theme**. Conceived the cognitive fashion platform as SaaS offering with multiple cognitive fashion powered features as an eco-system of artificial intelligence based micro-services for retail and fashion industry.
- **Filed multiple Patents and Disclosures** to safeguard the novelty and IPs in the features and algorithms developed under cognitive commerce themes to ensure sustainable competitive advantage for Watson Commerce product lines over third party offerings and captive developments.
- Lead the research and development of **computer vision and deep learning** based visual analytics features incorporating advanced **region proposal networks, cascades, CNNs, GANs, and deep learning based features for expert forecasting and anomaly detection** for a cloud based product and SaaS (Software as a Service) micro-service offerings.
- Lead the research and development of **distributed deep learning platform for Spark** and **CPU based expedited deep learning algorithms** to relieve the GPU dependencies in on-premise and cloud based production environment. Developed distributed deep learning library for ready production with Apache Spark.
- Collaborated with **IBM Watson Commerce teams in US and Russia** to co-develop and integrate **cognitive feature lines and SaaS enablement** to the existing Spark, Machine Learning based offerings for the Commerce Insights products.
- Conceptualized a series of **reinforcement learning based artificial intelligence agents** to optimize the **e-Commerce sequencing, discovery and promotions** to maximize the rewards (revenue and loyalty).

**Bank of New York Mellon (iNautix), Decision Science and Process Transformation Group.**

[Jan,15 - Sep,16]

Vice President - Advanced Analytics

- **Innovated** Real Time, **Constant Storage and Linear Computational Complexity** Distributed, Real Time, **On-line Anomaly detection algorithms** on Spark, MLlib, ML-Pipeline platform for implementing into numerous Cyber Security, Operational Anomaly and Fraud use cases.
- Developed Real Time, **Distributed, High Throughput** Machine Learning and **Decision Science platform** for the bank which could cater to **Bn+ event throughput** using commodity hardware and requiring minimal memory footprints (**100 X times less RAM than vendor proposed solutions**).
- Developed ML solutions for Financial Recommendations Recommendation, and Customer Churn Analytics for the world's largest trade clearance platform.
- Driven multiple ML, and Streaming Big Data Projects to increase STP (Straight Through Processing) rates and reduce manual interventions in the area of Process Optimization.

**IBM India Software Labs (ISL), Predictive and Advance Analytic Division.**

[Dec,12 - Dec,14]

Solution Architect - Advance Analytics, Software Group - SPSS

- **Advanced Analytical Modeling Architect** for IBMs best-selling Advanced Analytics Industry Software.
- Recipient of the "**Invention Plateau Holder**" recognition for consistently and relentlessly inventing and **filing Patents and IPs with high and instantaneous Business value and product applicability**.
- Recipient of **IBM's most prestigious International award in Software R&D across IBM Software Labs worldwide** - the "**Eminence and Excellence Award**" for coordinating with IBM Research Labs to implement some of the most advanced predictive analytics algorithm in the field of warranty and inspection early warning systems into IBM's predictive analytics industrial software offerings.
- Recipient of the "**Envision the Future**" recognition for implementing many futuristic and innovative algorithms into IBM's products, leading to an **instantaneous business value of Multi Billion Dollars as pre and post release pipeline and counting**.
- Filed **Multiple Patent and Publications** in the field of Predictive and Advanced Analytics with **immediate and high business value**.
- Co-Authored patents with the **Chief Statistician of SPSS Predictive Analytics Suite @ IBM**.
- Conducted client and partner enablement sessions as IBM SPSS Stack's India Customer Architect.

**Infosys - Management Consulting Services (Strategic Insights Practice)**

[Apr,11 - Dec,12]

Sr. Lead Analyst - Strategic Insights Practice

- **Procter & Gamble (In-Store, Marketing, and Financial Insights)**: Led multiple projects aimed at providing rich insights of **In-Store performance and Market Positioning** across all customer locations of P&G in CEEMEA region.

- *Best Buy (Campaign and Direct Multi-Channel Marketing Analytics)*: As **predictive and advanced analytics SME** recommended advanced solutions and predictive analytics methodologies, to improve the existing consumer and **campaign analytics solutions**, made on **SAS** stack of products.
- *British American Tobacco (SCIP - Supply Chain Improvement Project)*: As RFP's technical lead proposed solutions for **improving Supply Chain effectiveness** and efficiency in the area of Distribution Requirement Planning (**Demand Planning, Inventory Planning, and Replenishment Planning**)

#### **MARG Limited.**

[May,10 - Mar,11]

*Manager — Marketing and Business Development (Retail Projects)*

- Conducted research for the concept testing and positioning strategies of an INR 4Bn. premium retail development.
- Developed simulation models to improve circulation and logistics planning of retail and integrated developments by 30%.

#### **Utsav (Hospitality Proprietorship).**

[Aug,07 - Mar,09]

*Manager — Strategy (Hospitality Industry)*

- CRM Analytics: Initiated a robust CRM Analytics system to target the right customer with the right cross & up-selling products at the right time, thus increasing customer retention (14%), and their share of wallet (12%).
- Multi-Channel Campaign Management: Optimized the multi-channel campaign management using customer insights to increase the campaign response rates and profitability (by 20%).

#### **Torm Shipping (Copenhagen, Denmark).**

[Aug,03 - July,07]

*Engineering Officer- (Transportation & Logistics Industry)*

- Predictive Maintenance: Implemented CMS (Condition Monitoring System) and PMS (Predictive Maintenance System) to improvement in the firms PM (Plant Maintenance) system by the inclusion of Predictive trend assessment of key condition monitoring parameters.

### **PROFESSIONAL/ INDUSTRY AWARDS & ACHIEVEMENTS**

- Recipient of the '*India's Greatest*' **Big Data Experts Award**
- Recipient of the "*Invention Plateau Holder*" recognition for consistently and relentlessly inventing and **filing Patents and IPs with high and instantaneous Business value and product applicability.**
- Received **IBM's highest order International award in Software Development** at IBM Software Labs worldwide - the "*Eminence and Excellent Award*" for coordinating with IBM Research Labs to implement some of the most advanced predictive analytics algorithm into IBM's most prestigious BA Industry Software Solution - PMQ (Predictive Maintenance and Quality).
- Received the **Envision the Future** award, the highest order international *product innovation and visionary award* in the software labs *across the world* for envisioning IBMs best-selling and flagship product and making it most respected and highly profitable commercial offering.
- Designated as a member on the '**Technical Experts Council (Part of AOT - Academy of Technology)**' for sustained leadership and expertise in the data science practices from India.
- Received the **RCL Crown Most Valuable Player** award at Infosys entire Business vertical level (RCL- Retail, CPG, Logistics, and Life Sciences).
- Received the **Another Feather in the Cap** award for the best project management at the entire engagement level (*Proctor & Gamble*) for leading and driving the most complex projects from deep red to deep green status.

### **ACADEMIC QUALIFICATION**

**Ph.D. Computer Science** (*Specialization: Applied Artificial Intelligence in Security*)

From: **BITS Pilani**

*Pursuing*  
Since 2015

**M.Tech, (Masters of Technology) Software System** (*Specialization: Data Mining*)

From: **BITS Pilani**

*Percentage - 91.7%*  
July, 2015

**PGPM (MBA), Dual Majors Finance & Marketing**(*Specialization: Analytics*)

From: **Great Lakes Institute of Management**

*GPA - 3.76/4.0 (Topper)*  
March, 2010

**B.E. (Bachelor of Engineering), Marine**

From: **Jadavpur University**

*Percentage - 74.8%*  
July, 2003

### **OTHER ACHIEVEMENTS**

- **Indian National Level Player** of Kick Boxing.