Curriculum Vitæ: *Ashwin Srinivasan*

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Date of birth:	16 April, 1964
Citizenship:	Australian & British

Main Research Interest: The theory, application and development of machine-learning (ML)—specifically the area of Inductive Logic Programming (ILP).

Current Research: *System-identification*: constructing models of systems from their behaviour using meta-interpretative learning; *Relational feature discovery*: automatic identification of relational features for Deep Relational Machines; *Explanatory models*: extracting comprehensible models from Deep Relational Machines; *ILP implementation*: The development of my ILP system Aleph (which is probably the most widely used ILP system world-wide); *Large-scale relational data analysis*: map-reduce and streaming for relational data analysis; and consensus-modelling using gossip algorithms; *ILP conceptual*: Investigate the application of game theory for stochastic search.

Current Research Metrics: Google Scholar metrics: Citations > 5000; h-index: 40; i10 index: 72

Educational Background:

PhD	Area: Non-monotonic logics and their application.
	Dissertation: *An Artificial Intelligence approach to the Analysis of Multiple Information Sources in Remote Sensing.*
	University of New South Wales, Australia (completed: 1990, degree awarded: 1991)
	Supervised by: Professor J.A. Richards and Professor C.A. Sammut
BE (Hons.)	Electrical Engineering and Computer Science.
	University of New South Wales (1987)

Honours, Fellowships and Invited Talks:

2015: Class of 1981 Chaired Professorship, BITS-Pilani

2012: Distinguished Visiting Fellow, British Royal Academy of Engineering.

2012: Visiting Professor, Department of Computer Science, University of Oxford, UK.

2011: Visiting Professorial Fellow, University of New South Wales, Australia.

2009: Ramanujan Fellowship, Department of Science and Technology, Government of India.

2005: Invited speaker at the Fifteenth International Conference on Inductive Logic Programming; Invited speaker at the Workshop on Data Mining for Business, ECML/PKDD 2005.

1999: Invited speaker at the Industrial Day of the Sixteenth International Conference on Machine Learning (ICML'99).

1998: **(1)** Nuffield Trust Research Fellowship in Medical Mathematics, and Research Fellow, Green College, Oxford; **(2)** Invited speaker at the Eighth International Conference on Inductive Logic Programming; **(3)** Invited speaker at EAIA'98, Portugal; and **(4)** Invited speaker at the Second Workshop on System Engineering Applied Mathematics, Kobe Institute, Kobe, Japan.

1997: **(1)** Invited speaker at the Workshop on System Engineering and Applied Mathematics, Kobe Institute, Kobe, Japan; and **(2)** Visited and delivered 2 invited lectures at LIACC, University of Porto.

1996: Invited speaker at **(1)** the Workshop on The Verbalisation of Tacit Knowledge, Keio University, Tokyo; and **(2)** the Workshop on Inductive Logic Programming, Hokkaido University.

1995: Visited and delivered 2 invited lectures at The Mizoguchi Laboratory, Science University of Tokyo.

1992: Pacific Diagnostics Prize. Awarded for developing a prioritised-logic system for the automatic interpretation of chemical pathology data. This was later recommended for use in all hospitals in the state of New South Wales.

1987–1991:	**(1)** Harold G. Conde Memorial Fellow; **(2)** Australian Post Graduate Research Award; **(3)** Australian Government Higher Education Scholarship; **(4)** University of New South Wales Dean's Scholarship; and **(5)** Honours Class 1 awarded based on performance over 4 years of undergraduate study.
1983–1986:	Tyree–Westinghouse Scholar for Electrical Engineering and Computer Science.
1982:	Top 5% of New South Wales in the Higher School Certificate.

Academic Experience:

Research:

2015–date:	**Senior Professor** BITS Pilani, Goa; **Deputy Director** (2015–2017); **Head of Department** (2017– 2019), Computer Science & Information Systems; and **Head (2019– date)**, Anuradha and Prashanth Palakurthi Centre for Artificial Intelligence (APPCAIR). <u>Area:</u> Academic duties in Computer Science and Institutional administration.
2012–2015:	**Professor**, Indraprastha Institute of Information Technology, Delhi (IIIT-D), New Delhi. This is a State University established by the Govt. of Delhi. The Ramanujan Fellowship and Visiting appointments at Oxford and UNSW continue. <u>Area:</u> Academic duties in Computer Science.
2010–2012:	**Professor**, Department of Computer Science, South Asian University (SAU), New Delhi; and **Dean**, Faculty of Mathematics and Computer Science (SAU). Also: **Ramanujan Fellow**, Govt. of India; **Visiting Professor**, Computing Laboratory, Oxford University; and **Visiting Professorial Fellow** School of Computer Science and Engineering, University of New South Wales, Sydney, Australia. <u>Area:</u> Help establish a world-class department in Computer Science as part of a joint initiative by the SAARC nations; along with continuing research in the area of learning in first-order logic. **Also:** (to date) **Ramanujan Fellow**; **Visiting Professor**, Department of Computer Science, Oxford University; **Professorial Fellow**, School of Computer Science and Engineering, University of New South Wales, Sydney, Australia. <u>Area:</u> Development and application of machine learning, with special emphasis on the learning in first-order logic. The Ramanujan Fellowship is a 5-year fellowship awarded based on

a research agenda of building computational models in biology.

2003–2009: **Research Staff Member**, IBM India Research Laboratory, New Delhi; (from 2006) **Adjunct Professor**, School of Computer Science and Engineering, University of New South Wales, Sydney, Australia; (2006) **Visiting Fellow**, Centre for Health Informatics, University of New South Wales, Sydney, Australia. <u>Area:</u> Development and application of machine learning, with special emphasis on the learning in first-order logic. Additional IBM duties included research into how technology could be used to improve Healthcare in India; establish and develop links with Universities and research organisations on collaborative scientific projects.

2001-2003 **University Lecturer in Computation**, University of Oxford; **Fellow in Computation**, St. Peter's College Oxford (2001–2002); and **Lecturer in Computation**, Trinity College Oxford (2001–2002). <u>Area:</u> Academic duties in Computer Science.

1992–2000: **Nuffield Trust Fellow in Medical Mathematics** (1998–2000); **Research Fellow**, Green College Oxford (1998–2000); and **Research Officer** , Oxford University Computing Laboratory (1992–1997). <u>Area:</u> Development of ILP programs, and application of ILP/ML/Statistics to problems in drug design, natural language processing, control engineering, medicine, and architecture. I have successfully examined cutting-edge knowledge-discovery tasks in drug design for companies like Smith-Kline Beecham, Pfizer UK, and Glaxo-Wellcome. My research evoked a great deal of interest within the companies, and has played a key role in establishing the Oxford group as an important centre for applied ML. My ILP systems P-Progol and its successor Aleph are widely applied in research laboratories around the world. This research benefited from the guidance of Professor Donald Michie and Professor Stephen Muggleton.

1991–1992: **Research Fellow**, The Turing Institute, Glasgow; and **Research Associate**, Department of Statistics and Modelling Science, University of Strathclyde, Glasgow. <u>Area:</u> Use of Algorithmic Information Theory to guide the reliable and efficient construction of rules in a non-monotonic logic. As far as I am aware, this remains a rare attempt to successfully address the important practical problem of distinguishing be-

tween true exceptions and "noisy" data in non-monotonic reasoning. This research was directed by Professor Stephen Muggleton.

1990–1991: **Research Fellow**, Department of Biochemistry, St. Vincent's Hospital, Sydney; **Visiting Fellow**, Department of Computer Science, University of New South Wales. <u>Area:</u> Research and development of a method that acquired prioritised logic rules for the analysis of chemical pathology data. Writing the complete program required me to interact with hospital staff from various sections. The program was recommended by the Government for state-wide use in hospitals. At last check, it had acquired nearly 2400 rules, and formed the basis of at least two dissertations: one in Medicine, and one in Computer Science. Its success has also motivated the formation of a company dedicated to developing pathology software along the same lines. This research was directed by Professor Paul Compton, School of Computer Science and Engineering at the University of New South Wales and was awarded the Pacific Diagnostics Prize in 1992.

1987–1990: **Doctoral study** at the University of New South Wales. Research into the use of defeasible logic for the photo-interpretation of remotely sensed data, and its comparative advantage of this representation over methods like Multivariate Gaussian Analysis and Dempster Shafer Theory. My papers on this are widely cited. I was guided on aspects of remote sensing by Professor John Richards and on automated methods for logical reasoning by Professor Claude Sammut.

Teaching:

2012–date : Undergraduate and graduate-level courses in Intelligent Systems; Logic Programming and Learning; Statistical Computation; Artificial Intelligence; and Machine Learning.

2011: Graduate-level courses in Discrete Mathematics and Imperative Programming at the South Asian University.

2003: An introductory course on Inductive Logic Programming for post-graduate students at the Indian Institute of Technology, New Delhi.

2001–2002: Undergraduate courses in Operating Systems, Machine Learning and Intelligent Systems at the Computing Laboratory in Oxford.

1994–2000:	Organised and lectured a course entitled "Logic Programming and Learning" being taught to students reading for an MSc in Computation at Oxford University. This course involves considerable hands-on work to enable students understand the applied and theoretical nature of both logic programming and ILP.
1991–1993:	Taught short courses (with S. Muggleton) on Inductive Logic Programming, both to academia and industry.
1987–1990:	During my tenure as a Visiting Fellow at the University of New South Wales, I devised the schedule for, and taught a bridging course in procedural programming to Master's students. During the course of my research degree, I was employed as a tutor in topics that included logic programming, procedural programming, algorithms, digital logic, and electronics.

Supervision:

1992–date:	I have formally supervised the research of many Masters and Undergraduate students at Oxford, Delhi, and most recently in Goa. I have also formal supervised one doctoral student (degree awarded in 2004, by the University of Oxford) and the informal supervision of two doctoral students. I am currently supervising 1 PhD student. (I did not undertake formal supervision of doctoral students at the Computing Laboratory until I was offered a University Lecturership in 2001; between 2003–2009, while at IBM Research; and between 2010-2013, while setting up the Computer Science Department at the newly formed South Asian University.))

Grant Applications:

2019:	DataLab Project: a collaborative project with TCS Research (approximately 2,500,000 INR).
2018:	Erasmus+ mobility grant for exchange of faculty and students between Goa and Porto (approximately 20,000 EUR).
2017:	I am the only investigator in a CORE research grant on "Knowledge-Rich Deep Models for Optimisation". This is for approximately $2,300,000$ awarded by the Indian Science and Engineering Research Board (SERB); TCS Research Advisory for approximately $INR 750,000$.

2013-2017:	Various small grants including an Indo-Australian Workshop grant jointly with Professor Arcot Sowmya, UNSW; a Newton-Bhabha PhD Assistance Grant; an Indian National Science Academy (INSA) Ramalingaswamy Distinguished Chair Award for Professor R.D. King (Manchester); and a BITS Research Infrastructure Grant. These are all competetive grants, of varying small amounts.
2011:	I am a co-applicant, with researchers at the School of Life Sciences and the School of Physical Science Jawaharlal Nehru University in the area of modelling neuronal activity during sleep. A grant for this of INR $10,000,000$ (approximately £$140,000$ or \$$225,000$) for three years has been received from the Indian Department of Biotechnology.
2008:	I am a co-applicant, with researchers at the University of Aberystwyth (Wales), the University of Cambridge; the University of Aberdeen, and the University of New South Wales (Sydney) in the area of computational models for signalling in (biological) cells. A small grant for approximately £$120,000$ (or \$$200,000$) has been funded by the BBSRC (Biotechnology and Biological Sciences Research Council of the United Kingdom), under their Tools and Resources panel.
2007:	I am a co-applicant, with researchers at the Jawaharlal Nehru University, the Indian Institute of Technology (Delhi), International Centre for Genetic Engineering and Biotechnology (ICGEB), and the All India Institute for Medical Sciences in the area of systems biology. A substantial grant for INR $50,000,000$ (approximately £$600,000$ or \$$1,000,000$) for three years has been received from the Indian Department of Biotechnology.
1998–2003:	I was a co-applicant in: a UK grant investigating bioinformatic system identification. This grant awarded a total of approximately £$150,000$ (\$$250,000$) for three years; and a European grant investigating the development of techniques for data mining and decision-support for industry. This grant awarded a total (distributed across 12 European partners) of approximately £$2,000,000$ (\$$3,250,000$) for three years.

Patent Applications:

2017–2018:	Co-inventor on 6 patents with TCS Innovation Labs.
2016–2017:	Co-inventor on 6 patents with TCS Innovation Labs.

2015–2016:   Co-inventor on 2 patents with TCS Innovation Labs.

Course Development:

- I have recently devised courses in Artificial Intelligence and Machine Learning for BITS, Goa.

- I have recently devised an entire MSc. degree curriculum in Computer Science at the South Asian University.

- I devised courses in Machine Learning and Intelligent Systems at the Computing Laboratory, in Oxford. I believe these are still being taught there.

Professional Activities:

- I have given many talks on the application of ILP and ML to real-world knowledge discovery tasks. These talks have been at laboratories in Japan, Europe and Australia.

- I am on the Program Committee for the International Inductive Logic Programming Workshop which started in 1991, and is the premiere forum for research in that field. I regularly referee articles for leading journals like the International Machine Learning Conference, International Joint Conference on Artificial Intelligence, European Conference on Machine Learning, Machine Learning Journal, and the New Generation Computing Journal. I am also on the Editorial Board of the Machine Learning Journal.

- I have been an examiner for several Masters-level and Doctoral theses, and am an external referee for the Australian Research Council.

- I have held long-term consultancies with IBM Research (2009-2010) and TCS Research (2013–date). The purpose was to provide advice on machine learning use, and the investigate the use of ILP in the area of information extraction from text.

- In the past, I have had consultancy agreements with companies on the application of machine learning for financial modelling, and in the area of drug-design.

- I was a Co-founder and Non-Executive Research Director of a university spin-out company PharmaDM, that specialised in the application of ILP for drug-design.

Publication List: *Ashwin Srinivasan*

Notes: (1) I have not included here a report, of which I was the principal author, submitted by IBM Research to the President of India. This report *Improving India's Healthcare System Through Information Technology* is available on request.

Books

1. Srinivasan, A. (2009). *Donald Michie: Essays in Machine Intelligence, Biology and More*. Oxford University Press.

2. Camacho,R. King,R.D. and Srinivasan,A. (2004) *Inductive Logic Programming*. LNAI-3194, Springer.

Journals

1. Ashwin Srinivasan, Lovekesh Vig and Michael Bain (2019). Logical Explanations for Deep Relational Machines Using Relevance Information. Journal of Machine Learning Research. Volume 20, Number 130, pp 147.

2. Ashwin Srinivasan, Lovekesh Vig and Gautam Shroff (2019). Constructing Generative Logical Models for Optimisation Problems using Domain Knowledge. Accepted, *Machine Learning*.

3. Michael Bain and Ashwin Srinivasan (2018) Identification of Biological Transition Systems Using Meta-Interpreted Logic Programs. (2018) Machine Learning.Volume 107(7) pp. 1171–1206

4. Haimonti Dutta, Ashwin Srinivasan. (2018) Consensus-based modeling using distributed feature construction with ILP. Machine Learning 107(5): 825-858 (2018)

5. Ashwin Srinivasan, Michael Bain. (2017) An empirical study of on-line models for relational data streams. Machine Learning 106(2): 243-276.

6. P. Kumar, R. Kaalia, A. Srinivasan and I. Ghosh (2017) Multiple target-based pharmacophore design from active site structures. SAR and QSAR in Environmental Research, 29:1, 1-19

7. Rama Kaalia, Ashwin Srinivasan, Amit Kumar, Indira Ghosh. (2016) ILP-assisted de novo drug design. Machine Learning 103(3): 309-341.

8. Kaalia, R., Kumar, A., Srinivasan, A. and Ghosh, I. (2015) An Ab Initio Method for Designing Multi-Target Specific Pharmacophores using Complementary Interaction Field of Aspartic Proteases. *Molecular Informatics* (accepted).

9. Srinivasan A. Faruqui, T.A. and Joshi, S. (2012) Data and Task Parallelism for ILP using MapReduce. *Mach. Learn*, 86(1), pp. 141–168.

10. S. Muggleton, L. De Raedt, D. Poole, I. Bratko, P. Flach, K. Inoue and A. Srinivasan. (2012) ILP turns 20: Biography and Future Challenges. Invited position paper. *Mach. Learn.*, 86(1), 3-23.

11. Srinivasan, A. and Ramakrishnan, G. Parameter Screening and Optimisation for ILP using Designed Experiments. *Jnl. Mach. Learn. Res.*, 12 (2011) 627-662.

12. Agarwal,S. Vaz,C. Jain,R. Bhattacharya,A. and Srinivasan,A. (2010) Prediction of novel precursor miRNAs using a context sensitive hidden Markov Model (CSHMM). BMC Bioinformatics. 2010 Jan 18;11 Suppl 1:S29.

13. Fonseca,N.A. Srinivasan,A. Silva, F. and Camacho, R. (2009) Parallel ILP for Distributed-Memory Architectures. *Mach. Learn.*, 74(3):257–279.

14. Specia,L. Srinivasan,A. Joshi,S. Ramakrishnan,G. and Nunes, M. (2009). An Investigation into Feature Construction to Assist Word Sense Disambiguation. *Mach. Learn.*, 76(1):109–136.

15. Coghill,G. Srinivasan,A. and King,R.D. (2008) Qualitative System Identification from Imperfect Data. *Jnl. Art. Intell. Res.*, 32(2):825–878.

16. Srinivasan,A. and King,R.D. (2008) Incrementatal Identification of Qualitative Models of Biological Systems using Inductive Logic Programming. *Jnl. Mach. Learn. Res.*), 9(Jul):1475–1533.

17. Tyagi,S. Vaz,C. Gupta,V. Bhatia,R. Maheshwari,S. Srinivasan,A. and Bhattacharya,A. (2008) CID-miRNA: A web server for prediction of novel miRNA precursors in the human genome. *Jnl. Biochem. and Biophys. Res. Comm.*.

18. Srinivasan,A. Page,C.D. Camacho,R. and King,R.D. (2006) Quantitative Pharmacophore Models with Inductive Logic Programming. *Mach. Learn.*, 64:1,2,3, 65–90.

19. Zelezny,F. Srinivasan,A. and Page,C.D. (2006) Randomised Restarted Search in ILP. *Mach. Learn.*, 64:1,2,3, 183–208.

20. Srinivasan,A. King,R.D. and Bain,M.E. (2003) An empirical study of the use of relevance information in Inductive Logic Programming. *Jnl. Mach. Learn. Res.*, 4(Jul):369–383.

21. Toivonen,H. Srinivasan,A. King,R.D. Kramer,S. and Helma,C. (2003) Statistical Evaluation of The Predictive Toxicology Challenge 2001–2003. *Bioinformatics*, 19:1183–1193.

22. Costa,V.S. Srinivasan,A. Camacho,R. Blockeel,H. Demoen,B. Janssens,G. Struyf,J. Vandecasteele,H. and Van Laer,W. (2003) Query Transformations for Improving the Efficiency of ILP Systems. *Jnl. Mach. Learn. Res.*, 4(Aug):465–491.

23. Page,C.D. and Srinivasan,A. (2003) ILP: A Short Look Back and a Longer Look Forward. *Jnl. Mach. Learn. Res.*, 4(Aug):415–430.

24. Helma,C. King,R.D. Kramer,S. and Srinivasan,A. (2001) The Predictive Toxicology Challenge 2000-2001. *Bioinformatics* (Application Note), 17:107–108.

25. King,R. Srinivasan,A. and DeHaspe,L. (2001) WARMR: A Data Mining Tool for Chemical Data. *Jnl. Comp. Aid. Mol. Des.*, 15:173–181.

26. Muggleton,S.H. Bryant,C.H. Srinivasan,A. Whittaker,A. Topp,S. and Rawlings,C. (2001) Are grammatical representations useful for learning from biological sequence data? *Jnl. Comput. Biol.*, 8(5):493–522.

27. Srinivasan,A. (2001) Extracting context-sensitive models in Inductive Logic Programming. *Mach. Learn.*, 44:301–324.

28. Srinivasan,A. (1999) A study of two sampling methods for analysing large datasets with ILP. *Data Mining and Knowledge Discovery*, 3(1):95–123.

29. Srinivasan,A. Camacho,R.C. (1999) Numerical reasoning with an ILP program capable of lazy evaluation and customised search, *Journal Logic Programming*, 40(2,3):185–214.

30. Srinivasan,A. King,R.D. (1999) Feature construction with inductive logic programming: a study of quantitative predictions of biological activity aided by structural attributes. *Data Mining and Knowledge Discovery*, 3(1):37–57.

31. Finn,P. Muggleton,S.H. Page,D. and Srinivasan, A. (1998) Pharmacophore discovery using the Inductive Logic Programming System Progol. *Machine Learning*, 30:241–270.

32. Saith,R.R. Srinivasan,A. Michie,D. and Sargent,I.L. (1998) The relationship between embryo, oocyte and follicular features and the developmental potential of human IVF embryos. *Human Reproduction Update*, 4(2):121–134.

33. King,R.D. and Srinivasan, A. (1997) The discovery of indicator variables for QSAR using Inductive Logic Programming. *Computer-Aided Molecular Design*, 11:571–580.

34. King,R.D. Muggleton,S.H. Srinivasan,A. and Sternberg,M.J.E. (1996) Structure-activity relationships derived by machine learning: The use of atoms and their bond connectivities to predict mutagenicity by inductive logic programming. *Proc. of the National Academy of Sciences*, 93:438–442.

35. King,R.D. Srinivasan,A. (1996) Prediction of rodent carcinogenicity bioassays from molecular structure using inductive logic programming. *Environmental Health Perspectives*, 104(5):1031–1040.

36. Srinivasan,A. Muggleton,S. King,R.D. and Sternberg,M.J.E. (1996) Theories for mutagenicity: a study in first-order and feature-based induction. *Artificial Intelligence*, 85:277–299.

37. King,R.D. Srinivasan,A. Sternberg,M.J.E. (1995) Relating chemical activity to structure: an examination of ILP successes. *New Generation Computing*, 13(3,4).

38. Edwards, G. Compton, P. Malor, R. Srinivasan, A. and Lazarus, L. (1993) PEIRS: a pathologist maintained expert system for the interpretation of chemical pathology reports, *Pathology* 25, pp 27–34.

39. Srinivasan,A. and Richards,J.A. (1993) Analysis of GIS spatial data using knowledge based methods. *International Journal of Geographic Information Systems*, 7(6) 479–500.

40. Compton, P. Edwards, G. Kang, B. Lazarus, L. Malor R. Preston P. and Srinivasan, A. (1992) Ripple down rules: turning knowledge acquisition into knowledge maintenance, *Artificial Intelligence in Medicine*, 4, pp 463–475.

41. Srinivasan,A. and Richards,J.A. (1990) Knowledge-Based Techniques for Multi-Source Classification. *International Journal of Remote Sensing* **11**, pp 502-525.

Conferences and Workshops

1. Richa Verma, Sarmimala Saikia, Harshad Khadilkar, Puneet Agarwal, Gautam Shroff, Ashwin Srinivasan (2019) A Reinforcement Learning Framework for Container Selection and Ship Load Sequencing in Ports. AAMAS 2019: 2250-2252.

2. Tirtharaj Dash, Ashwin Srinivasan, Lovekesh Vig, Oghenejokpeme I. Orhobor, Ross D. King (2018) Large-Scale Assessment of Deep Relational Machines. 28th International Conference, ILP 2018, Ferrara, Italy, September 2-4, 2018, Proceedings, LNCS 11105, pp 22-37

3. Vishwanath D, Rohit Rahul, Gunjan Sehgal, Swati, Arindam Chowdhury, Monika Sharma, Lovekesh Vig, Gautam Shroff, Ashwin Srinivasan (2018). Deep Reader: Information Extraction from Document Images via Relation Extraction and Natural Language. ACCV Workshops 2018: 186-201.

4. Sarmimala Saikia, Richa Verma, Puneet Agarwal, Gautam Shroff, Lovekesh Vig, Ashwin Srinivasan (2018). Evolutionary RL for Container Loading. ESANN 2018

5. Prerna Khurana, Puneet Agarwal, Gautam Shroff, Lovekesh Vig, Ashwin Srinivasan. (2017) Hybrid BiLSTM-Siamese network for FAQ Assistance. CIKM 2017.

6. Lovekesh Vig, Ashwin Srinivasan, Michael Bain, Ankit Verma: An Investigation into the Role of Domain-Knowledge on the Use of Embeddings. ILP 2017. N. Lachiche and C. Vrain eds., LNAI(10759), pp. 169-183, Springer.

7. Deepika Vatsa, Sumeet Agarwal, Ashwin Srinivasan. (2016) Learning transition models of biological regulatory and signaling networks from noisy data. CODS: 9:1-9:6

8. Ashwin Srinivasan, Gautam Shroff, Lovekesh Vig, Sarmimala Saikia. (2016) Generation of Near-Optimal Solutions Using ILP-Guided Sampling. ILP 2016. James Cussens and Alessandra Russo, eds., LNAI(10326), pp. 120-131, Springer. Best paper award.

9. Sarmimala Saikia, Lovekesh Vig, Ashwin Srinivasan, Gautam Shroff, Puneet Agarwal, Richa Rawat. (2016) Neuro-Symbolic EDA-Based Optimization Using ILP-Enhanced DBNs. CoCo@NIPS.

10. Sarmimala Saikia, Gautam Shroff, Puneet Agarwal, Ashwin Srinivasan. (2015) Succinctly summarizing machine usage via multi-subspace clustering of multi-sensor data. pp: 1-10

11. Srinivasan, A. Bain, M. Vatsa, D. and Agrawal, S. (2015) Identification of transition models of biologicals systems in the presence of transition noise. *25th International Conference on Inductive Logic Programming*, (accepted).

12. Mohit, Y. Hassan E. Shroff, G. Agarwal, P. and Srinivasan, A. (2015). Patterns in Multi-Sensor Data from the Industrial Internet. *PReMI 2015*, (accepted)

    Sarmimala, S. Shroff, G. Agarwal, P. Srinivasan, A. Pandey, A. and Anand, G. (2014)/ Exploratory Data Analysis Using Alternating Covers of Rules and Exceptions. *COMAD 2014*, pp. 105-108.

13. Saha, A. and Srinivasan, A. and Ramakrishnan, G. (2012) What kinds of Features are Useful for Statistical Learning? 22nd International Conference on Inductive Logic Programming. LNAI-7842, pp 209-224. Springer.

14. Faruquie, T.A., Srinivasan, A. and King, R.D. (2012) Topic Models with Relational Features for Drug Design. 22nd International Conference on Inductive Logic Programming. LNAI-7842, pp 45-57. Springer.

15. Srinivasan, A. and Bain, M. (2012) Knowledge-guided identification of Petri Net Models of Large Biological Systems. 21st International Conference on Inductive Logic Programming. S. Muggleton, A. Tammadoni-Rezad, F. Lisi (eds.), LNCS 7207, pp 317–331.

16. Srinivasan,A. Faruquie,T.A. and Joshi,S. (2010). Exact data-parallel computation for very large ILP datasets. Presented at the 20th International Conference on Inductive Logic Programming (full paper later published in the Machine Learning Journal).

17. Srinivasan,A. and Ramakrishnan,G. (2009). Parameter screening and selection for ILP using Designed Experiments. 19th International Conference on Inductive Logic Programming. LNCS 5989, pages 217–225, Berlin, 2009, Springer.

18. Joshi,S. Ramakrishnan,G. and Srinivasan,A. (2008) Feature construction using theory-guided sampling and randomised search. In Proceedings of the 18th International Conference on Inductive Logic Programming, LNCS 5194, pages 140-157, Berlin, 2008. Springer.

19. Ramakrishnan,G. Joshi,S. Balakrishnan,S. and Srinivasan,A. (2008). Using ILP to Assist Information Extraction from Semi-Structured Text. Proceedings of the 17th International Conference on Inductive Logic Programming, LNCS 4894, pages 211-224, Berlin 2008, Springer.

20. Paes,A. Zelezny,F. Gaverucha,G. Page,C.D. and Srinivasan,A. (2007). ILP through Propositionalization and Stochastic k-Term DNF Learning. Proceedings of the 16th International Conference on Inductive Logic Programming. LNCS 4455, pages 379-393, Berlin 2007, Springer.

21. Specia,L. Srinivasan,A. Ramakrishnan,G. and Nunes, M. (2007) Word Sense Disambiguation with Inductive Logic Programming. Proceedings of the 16th International Conference on Inductive Logic Programming. , LNCS 4455, pages 409-423, Berlin 2007, Springer. (Winner of the "Best Application Prize")

22. Blockeel,H. Page,C.D. and Srinivasan,A. (2005) Multi-Instance Tree Learning. In: *Proceedings of the Twenty Second International Conference on Machine Learning (ICML 2005).*

23. Srinivasan,A. and Kothari,R. (2005) A study of applying dimensionality reduction to restrict the size of a hypothesis space. *Proceedings of the Fifteenth International Conference on Inductive Logic Programming (ILP2005)*, LNAI-3625, Springer, pp 348–365.

24. Zelezny,F. Srinivasan,C.D. and Page,C.D. (2004) A Monte-Carlo Study of Randomised Restarted Search in ILP. *Proceedings of the Fourteenth International Conference on Inductive Logic Programming (ILP2004)*, LNAI-3194, Springer, pp 341–358.

25. Srinivasan,A. (2002) The Applicability to ILP of Results Concerning the Ordering of Binomial Populations. *Proceedings of the Twelfth International Conference on Inductive Logic Programming (ILP2002)*, LNAI-2583, Springer, pp 238–253.

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