Yashoteja Prabhu

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Research Interests

Extreme Multi-Label Learning: My primary research interest involves developing very efficient and scalable algorithms for extreme multi-label learning problems, as well as coming up with theoretically unbiased metrics for evaluating their performance. Extreme multi-label learning is a newly popular field of machine learning with many real-world applications.

Practical Applications: I am also interested in applying extreme learning techniques and algorithms to web page tagging, recommendation systems, automatic bid phrase suggestion, dynamic search advertising, web search, and other applications.

Education

Year	Degree/Certificate	Institute/School	CPI/%
2013-Present	Ph.D., Computer Science and Engg.	Indian Institute of Technology Delhi	8.13/10
2007-2011	B.Tech.(Hons), Computer Science and Engg.	Indian Institute of Technology Bombay	9.10/10
2006	12th STD (PUC)	MES College, Bangalore	87.00/100
2004	10th STD (SSLC)	New Cambridge High School, Bangalore	94.56/100

Publications

- Parabel: Partitioned Label Trees for Extreme Classification with Application to Dynamic Search Advertising.
  Yashoteja Prabhu, Anil Kag, Shrutendra Harsola, Rahul Agrawal and Manik Varma.
  The Web Conference (**WWW**), 2018.
  Citations: -

- Extreme Multi-label Learning with Label Features for Warm-Start Tagging, Ranking and Recommendation.
  Yashoteja Prabhu, Anil Kag, Shilpa Gopinath, Shrutendra Harsola, Rahul Agrawal and Manik Varma.
  International Conference on Web Search and Data Mining (**WSDM**), 2018.
  Citations: -

- Extreme Multi-label Loss Functions for Recommendation, Tagging, Ranking and Other Missing Label Applications.
  Himanshu Jain, Yashoteja Prabhu and Manik Varma.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2016.
  Citations: 21

- FastXML: A Fast, Accurate and Stable Tree-classifier for eXtreme Multi-label Learning.
  Yashoteja Prabhu and Manik Varma.
  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2014.
  Citations: 82

- Multi-Label Learning with Millions of Labels: Recommending Advertiser Bid Phrases for Web Pages**.**
  Rahul Agrawal, Archit Gupta, Yashoteja Prabhu and Manik Varma.
  The Web Conference (**WWW**), 2013.
  Citations: 110

- Resolving Occlusion in Multiframe Reconstruction of Deformable Surfaces**.**
  Appu Shaji, Aydin Varol, Pascal Fua, Yashoteja Prabhu, Ankush Jain and Sharat Chandran.
  Computer Vision and Pattern Recognition Workshops (**CVPRW**), 2011.
  Citations: 2

Work Experience

Teaching Assistant, IIT Delhi, New Delhi, 2013-2017	Assisted with course material preparation, evaluation and grading for the following courses: Artificial Intelligence, Natural Language Processing, Machine Learning, Data Structures and Algorithms, and Introduction to Engineering
Research Assistant, Microsoft Research Lab, Bangalore, 2011-2013	Devised solutions to problems such as automatically tagging webpages and recommending bid phrases for advertisements by reformulating them as multi-label classification with millions of labels - the paradigm which later evolved into the field of *extreme classification*. Developed multi-label random forest technique for extreme classification. Worked with Bing Ads engineers to apply it to bid phrase recommendation task on Bing.
Intern, Microsoft Development Center, Hyderabad, 2010 Summer	Worked with the SQL Server team to develop algorithms to efficiently search and filter database objects based on their properties. Devised novel methods for visualizing the search results. Identified the salient personas appearing in SQL Server and implemented a persona-specific layout configuration module. Implemented a Start Page with dynamic feeds and a customizable layout.

Awards/Achievements

- Tata Consultancy Services Ph.D. fellowship, 2013
- Teaching Assistant Award in COL774 (Machine Learning), 2016
- First prize in Microsoft Azure ML hacking contest at Machine Learning Summer School, IISC, 2015
- All India Rank 31 in IIT-JEE amongst 250K students, 2007
- Rank 5 in Regional Mathematics Olympiad, 2006

Professional Service

- Reviewer for Journal of Machine Learning Research (**JMLR**) and IEEE Transactions on Knowledge and Data Engineering (**TKDE**)

- Reviewer for International Conference on Machine Learning (**ICML**), International Conference on Computer Vision (**ICCV**) and International Conference on Computataional Intelligence (**ICCI**)

Skills

- Efficient and highly scalable coding in C++ (Code for FastXML, SwiftXML, Parabel)
- Proficient in C++, Matlab, Python, Perl, Bash, HTML

Graduate Coursework

- Artificial Intelligence (as Teaching Assistant)
- Advanced Natural Language Processing (as Teaching Assistant)
- Machine Learning
- Computer Vision
- Mathematical Programming
- Algorithmic Graph Theory
- Compiler Design
- Randomized Geometric and Streaming Algorithms

Other Activities

- Organizer at TechFest 2008, IIT Bombay's technological festival
- Trained Carnatic singer and guitar enthusiast