P Vidyadhar Rao

Contact Information

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Research Interests

Machine Learning, Optimization Methods, Algorithmic and Statistical Analysis

Education

International Institute of Information Technology, Hyderabad

M.S by Research , GPA: 8.67/10 **Aug 2012 - present**

- Dissertation Topic: *"Diverse Yet Efficient Nearest Neighbor Retrieval"*: Typical retrieval systems have three requirements: a) accurate retrieval, b) diverse retrieval, c) retrieval time should be small. In this work, we present a method based on locality sensitive hashing which tries to address all the above requirements simultaneously. We also extend our method to the problem of multi-label learning, where the goal is to output a diverse and accurate set of labels in real-time. *This work is yet to be published*
- Advisors: C.V. Jawahar, Prateek Jain

International Institute of Information Technology, Hyderabad

B.Tech in Computer Science and Engineering, GPA: 7.98/10 **Jul 2006 - Aug 2010**

Course Work

- Computer Programming, Algorithms and Data Structures, Discrete Mathematics, Probability and Statistics, Theory of Computation, Compilers.
- Pattern Recognition, Artificial Neural Networks, Machine Learning, Optimization Methods, Soft Computing, Computer Vision, Inofrmation Retrieval and Search, Natural Language Processing, Cryptography, Information Security and Distributed Algorithms.

Academic Experience

Teaching Assistant at IIIT Hyderabad **Monsoon 2014**
Course: Complexity and Advanced Algorithms taught by Dr. Kannan Srinathan.
Duties include designing assignments/exam problems for graduate level course.

Teaching Assistant at IIIT Hyderabad **Spring 2010**
Course: Formal Methods taught by Dr. Kannan Srinathan.
Duties include designing assignments/exam problems for undergraduate level course.

Professional Experience

Centre for Visual Information Technology, IIIT Hyderabad

Research Assistant **Aug 2012 - present**

- Worked on the problem of Semi-Supervised Metric Learning for Clustering. We tackle the problem of identifying constraints that are informative to learn appropriate metrics for semi-supervised clustering.
- Developed and maintained PREON system, a platform for researchers and faculty members to share and update research progress.

School of Computer Engineering, KIIT University, Bhubaneshwar

Assitant Professor **Jul 2010 - Jul 2012**

Taught undergraduate level courses for the B.Tech in Computer Science and Engineering program. Duties include Class lectures, Supervision of labs, Creating problem sets/assignments/exams, Leading projects and discussion sections, Grading.

- Principles Of Programming Language, Spring 2011
- Theory of Computation, Monsoon 2011
- Compiler Design, Spring 2012

Centre for Security, Theory and Algorithmic Research, IIIT Hyderabad

Undergraduate Research **April 2009 - April 2010**

- Project Topic: *"Privacy-Preserving Collaborative Anti-Spam Filter"*: A collaborative framework can be effective in designing an anti-spam filter. However, emails contain confidential information and therefore, any collaborative anti-spam approach has to guarantee strong privacy protection to the participating entities. We propose a private support vector machine training approach to provide confidentiality of the emails in a collaborative system. The privacy of our system is ensured by using homomorphic encryption protocols.
- Advisor: Kannan Srinathan

Conference Publications

Vidyadhar Rao, and C. V. Jawahar. "Semi-supervised Clustering by Selecting Informative Constraints." In Pattern Recognition and Machine Intelligence (PReMI), pp. 213-221. Springer Berlin Heidelberg, 2013.

Computer Skills

- Statistical Packages: Extensive use of C and Fortran statistical libraries like PROPACK, .
- Languages: C, C++, Pyhton, Matlab, Unix shell scripts, MPI parallel processing library.
- Applications: LaTeX, common Windows database, spreadsheet, and presentation software
- Algorithms: Programming with FLANN for nearest neighbor algorithms, VLFEAT for computer vision algorithms.
- Operating Systems: Unix/Linux, Windows.

Academic Accomplishments

- Attended MSR India Winter School, 2012
- Featured in Dean's Merit List for three semesters Spring 2009, Monsoon 2009, Spring 2010.
- A recipient of Prathiba Scholar Ship from the State Government of Andhra Pradesh, 2006.
- Secured All India Rank of 1167 in All India Engineering Entrance Examination (AIEEE), 2006.
- Secured All India Rank of 4791 in Joint Entrance Examination (JEE), 2006