

Yeshwanth Cherapanamjeri

Ph.D Applicant in Machine Learning

CONTACT INFORMATION	Microsoft Research India #9, Lavelle Road Bangalore, India - 560001	https://yeshwanth94.github.io yeshwanthreddy@gmail.com +91-9769532063
RESEARCH INTERESTS	Learning Theory, Optimization, High Dimensional Statistics	
CURRENT POSITION	Microsoft Research India <i>Research Fellow</i>	(June 2015 - Present) Advisors: Dr. Prateek Jain and Dr. Praneeth Netrapalli
EDUCATION	Indian Institute of Technology Bombay B. Tech with Honors in Computer Science and Engineering Minor in Applied Statistics and Informatics CGPA: 9.31 (<i>Ranked among the top 10% of the department</i>)	(July 2011 - May 2015)
PUBLICATIONS	Thresholding based Efficient Outlier Robust PCA Yeshwanth Cherapanamjeri , Praneeth Netrapalli, Prateek Jain Thirtieth Conference on Learning Theory (COLT '17) ArXiv Version: https://arxiv.org/abs/1702.05571 Nearly Optimal Robust Matrix Completion Yeshwanth Cherapanamjeri , Kartik Gupta, Prateek Jain Thirty-Fourth International Conference on Machine Learning (ICML '17) ArXiv Version: https://arxiv.org/abs/1606.07315	
RESEARCH EXPERIENCE	Robust Matrix Completion <i>Advisor: Dr. Prateek Jain, Microsoft Research India</i> <ul style="list-style-type: none">• Formulated Robust Matrix Completion as the problem of recovering a sparsely-corrupted low rank matrix by observing a small number of entries from the matrix• Proposed an efficient algorithm based on singular value projection and hard thresholding• Established the <i>information-theoretic optimality</i> of the algorithm in the fraction of corruptions• Established the near-<i>optimality</i> of sample and run-time complexities• Empirically evaluated the algorithm on synthetic data and the foreground-background separation task where we obtained 10× speedup over existing methods Non Convex Outlier-Robust PCA <i>Advisors: Dr. Prateek Jain and Dr. Praneeth Netrapalli, Microsoft Research India</i> <ul style="list-style-type: none">• Proposed first provably near-linear time algorithm for Outlier-Robust PCA• Proved the <i>information-theoretic optimality</i> of the algorithm in the fraction of outliers tolerated• Empirically evaluated the proposed algorithm on a variety of anomaly detection datasets We are currently exploring efficient streaming variants of our algorithm for deployment on low resource devices and preparing our results for a publication. Entity Linking with Hierarchical Non-Parametric Topic Models <i>Advisors: Prof. Ganesh Ramakrishnan and Prof. Soumen Chakrabarti, IIT Bombay</i> <ul style="list-style-type: none">• Worked on the use of hierarchical non-parametric topic models for entity linking• Proposed a novel extension of existing methods to alleviate the issue of No Attachment phrases• Proposed optimizations to existing Gibbs sampling techniques to scale to large corpora like Wikipedia• Evaluated the proposed algorithm on corpora constructed from Wikipedia and Yago! The report can be found here: https://yeshwanth94.github.io/docs/elReport.pdf	(June 2015 - May 2016) (June 2016 - Present) (May 2014 - May 2015)

	Contour and Junction Detection in Architectural Images (May 2013 - July 2013) <i>Advisor: Prof. Marcus Magnor, TU Braunschweig</i> <ul style="list-style-type: none"> • Implemented and evaluated the <i>gPB</i> algorithm for detecting contours on natural images • Proposed domain specific extensions to <i>gPB</i> to extract junction points based on extracted contours • Integrated into a user-guided tool to reconstruct the façade of a building from multiple images
SCHOLASTIC ACHIEVEMENTS	Secured All India Rank 67 in IIT-JEE amongst more than 500,000 candidates (2011) Declared successful at the Indian National Mathematical Olympiad (INMO) (2011, 2010) Awarded Kishore Vaigyanik Protsahan Yojana Scholarship with All India Rank 13 (2011) Among the top 1% students in India in the Indian National Chemistry <i>and</i> Physics Olympiads (2011) Qualified for the regional rounds of the ACM ICPC (2013, 2014)
TALKS & SEMINARS	Entity Linking with Hierarchical Non-Parametric Topic Models (Mar 2015) <i>Advisor: Prof. Ganesh Ramakrishnan, Microsoft Research India & IIT Bombay</i> Stability and Generalization in Machine Learning (Sep 2014) <i>Advisor: Prof. Saketha Nath J., IIT Bombay</i> Hopfield Networks and Applications (Mar 2014) <i>Advisor: Prof. Pushpak Bhattacharya, IIT Bombay</i> Contour and Junction Detection in Architectural Images (July 2013) <i>Advisor: Prof. Marcus Magnor, TU Braunschweig</i>
PROFESSIONAL SERVICE	External Reviewer: Thirty-First AAAI Conference on Artificial Intelligence Teaching Assistant for MA 214 - Numerical Analysis: Mentored a group of 30 students part of an introductory course on the analysis of commonly used numerical algorithms in scientific computing
TECHNICAL SKILLS	Programming Languages: C++, Java, Python, Scheme Numerical Computing: Matlab, Octave, R Miscellaneous: Spark, L ^A T _E X, Prolog, MySQL
EXTRA CURRICULARS	Completed beginner level Mandarin Chinese course offered by IIT Bombay with distinction Completed one year guitar course offered by the National Sports Organization Awarded Brown belt in Karate by Kokino Shito-Ryu School of Karate