Yeshwanth Cherapanamjeri

Ph.D Student in Computer Science

CONTACT INFORMATION

UC Berkeley
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RESEARCH INTERESTS

Learning Theory, Optimization, High Dimensional Statistics

EDUCATION

UC Berkeley (August 2017 - Present)
Ph.D Student in Computer Science
Advisor: Prof. Peter Bartlett
CGPA: 4.0

Indian Institute of Technology Bombay (July 2011 - May 2015)
B. Tech with Honors in Computer Science and Engineering
Minor in Applied Statistics and Informatics
CGPA: 9.31 (*Ranked among the top 10% of the department*)

PAST EMPLOYMENT

Microsoft Research India (June 2015 - July 2017)
Research Fellow Advisors: Dr. Prateek Jain and Dr. Praneeth Netrapalli

PUBLICATIONS

Thresholding based Efficient Outlier Robust PCA
Yeshwanth Cherapanamjeri, Prateek Jain, Praneeth Netrapalli
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

Non Convex Outlier-Robust PCA (June 2016 - February 2017)
Advisors: Dr. Prateek Jain and Dr. Praneeth Netrapalli, Microsoft Research India

- Proposed first provably near-*linear* time algorithm for Outlier-Robust PCA
- Proved the *information-theoretic optimality* of the algorithm in the fraction of outliers tolerated
- Empirically evaluated the proposed algorithm on a variety of anomaly detection datasets

Robust Matrix Completion (June 2015 - May 2016)
Advisor: Dr. Prateek Jain, Microsoft Research India

- 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 *information-theoretic optimality* of the algorithm in the fraction of corruptions
- Established the near-*optimality* 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

Contour and Junction Detection in Architectural Images (May 2013 - July 2013)
Advisor: Prof. Marcus Magnor, TU Braunschweig

- Implemented and evaluated the *gPB* algorithm for detecting contours on natural images
- Proposed domain specific extensions to *gPB* to extract junction points based on extracted contours
- Integrated into a user-guided tool to reconstruct the façade of a building from multiple images