Yeshwanth Cherapanamjeri

Postdoctoral Associate

CONTACT INFORMATION

Massachusetts Institute of Technology
6th Floor, Stata Center

https://yeshwanth94.github.io
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INTERESTS

Algorithms, Statistical Learning Theory, Optimization

EDUCATION

UC Berkeley (August 2017 - August 2023)
Ph.D Student in Computer Science
Advisor: Prof. Peter L. 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*)

EMPLOYMENT

Massachusetts Institute of Technology (September 2023 - Present)
Postdoctoral Associate Advisor: Prof. Constantinos Daskalakis

The Voleon Group (May 2021 - August 2021)
Research Scientist Intern Manager: Dr. Neal Master

Amazon Inc (June 2020 - August 2020)
Applied Scientist Intern Managers: Dr. Choon Hui Teo and Dr. Vishy Vishwanathan

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

TU Braunschweig (May 2013 - July 2013)
Research Intern Advisor: Prof. Marcus Magnor

PUBLICATIONS

Statistical Barriers to Affine-equivariant Estimation
Z. Chen, Y. Cherapanamjeri
In Submission
ArXiv Version: https://arxiv.org/abs/2310.10758

Diagnosing Transformers: Illuminating Feature Spaces for Clinical Decision-Making
A. R. Hsu, Y. Cherapanamjeri, B. Park, T. Naumann, A. Y. Odisho, B. Yu
Twelfth International Conference on Learning Representations (ICLR 2024)
ArXiv Version: https://arxiv.org/abs/2305.17588

The One-Inclusion-Graph Algorithm is not Always Optimal
I. Aden-Ali, Y. Cherapanamjeri, A. Shetty, N. Zhivotovskiy
Thirty Sixth Conference on Learning Theory (COLT 2023)
ArXiv Version: https://arxiv.org/abs/2212.09270

Optimal Algorithms for Linear Algebra in the Current Matrix Multiplication Time
Y. Cherapanamjeri, S. Silwal, D. P. Woodruff, S. Zhou
ACM-SIAM Symposium on Discrete Algorithms (SODA 2023)
ArXiv Version: https://arxiv.org/abs/2211.09964

Robust Algorithms on Adaptive Inputs from Bounded Adversaries
Y. Cherapanamjeri, S. Silwal, D. P. Woodruff, F. Zhang, Q. Zhang, S. Zhou
Eleventh International Conference on Learning Representations (ICLR 2023)
ArXiv Version: https://arxiv.org/abs/2304.07413

What Makes A Good Fisherman? Linear Regression under Self-Selection Bias
Y. Cherapanamjeri, C. Daskalakis, A. Ilyas, E. Zampetakis
Fifty Fifth Symposium on Theory of Computing (STOC 2023)
ArXiv Version: https://arxiv.org/abs/2205.03246

Estimation of Standard Auction Models
Y. Cherapanamjeri, C. Daskalakis, A. Ilyas, E. Zampetakis
Extended Abstract: Twenty Third Conference on Economics and Computation (EC 2022)
ArXiv Version: https://arxiv.org/abs/2205.02060

Uniform Approximations for Randomized Hadamard Transforms with Applications
Y. Cherapanamjeri, J. Nelson
Fifty Fourth Symposium on Theory of Computing (STOC 2022)
ArXiv Version: https://arxiv.org/abs/2203.01599

Adversarial Examples in Multi-Layer Random ReLU Networks
P. L. Bartlett, S. Bubeck, Y. Cherapanamjeri
Thirty Fifth Conference on Neural Information Processing Systems (NeurIPS 2021)
ArXiv Version: https://arxiv.org/abs/2106.12611

A single gradient step finds adversarial examples on random two-layers neural networks
S. Bubeck, Y. Cherapanamjeri, G. Gidel, R. Tachet des Combes
Thirty Fifth Conference on Neural Information Processing Systems (NeurIPS 2021)
Spotlight Presentation
ArXiv Version: https://arxiv.org/abs/2104.03863

Terminal Embeddings in Sublinear Time
Y. Cherapanamjeri, J. Nelson
Sixty Second Symposium on Foundations of Computer Science (FOCS 2021)

On Adaptive Distance Estimation
Y. Cherapanamjeri, J. Nelson
Thirty Fourth Conference on Neural Information Processing Systems (NeurIPS 2020)
Spotlight Presentation
ArXiv Version: https://arxiv.org/abs/2010.11252

Optimal Robust Linear Regression in Nearly Linear Time
Y. Cherapanamjeri, E. Aras, N. Tripuraneni, M. I. Jordan, N. Flammarion, P. L. Bartlett
In Submission
ArXiv Version: https://arxiv.org/abs/2007.08137

List Decodable Mean Estimation in Nearly Linear Time
Y. Cherapanamjeri, S. Mohanty, M. Yau
Sixty First Symposium on Foundations of Computer Science (FOCS 2020)
ArXiv Version: https://arxiv.org/abs/2005.09796

Optimal Mean Estimation without a Covariance
Y. Cherapanamjeri, N. Tripuraneni, P. L. Bartlett, M. I. Jordan
In Submission

Algorithms for Heavy-Tailed Statistics: Regression, Covariance Estimation, and Beyond
Y. Cherapanamjeri, S. B. Hopkins, T. Kathuria, P. Raghavendra, N. Tripuraneni
Fifty Second Symposium on Theory of Computing (STOC 2020)
ArXiv Version: https://arxiv.org/abs/1912.11071

Fast Mean Estimation with Sub-Gaussian Rates
Y. Cherapanamjeri, N. Flammarion, P. L. Bartlett
Thirty Second Conference on Learning Theory (COLT 2019)
ArXiv Version: https://arxiv.org/abs/1902.01998

Testing Markov Chains without Hitting
Y. Cherapanamjeri, P. L. Bartlett
Thirty Second Conference on Learning Theory (COLT 2019)
ArXiv Version: https://arxiv.org/abs/1902.01999

Thresholding based Efficient Outlier Robust PCA
Y. Cherapanamjeri, P. Jain, P. Netrapalli
Thirtieth Conference on Learning Theory (COLT 2017)

ArXiv Version: https://arxiv.org/abs/1702.05571

Nearly Optimal Robust Matrix Completion
Y. Cherapanamjeri, K. Gupta, P. Jain
Thirty-Fourth International Conference on Machine Learning (ICML 2017)
ArXiv Version: https://arxiv.org/abs/1606.07315

Teaching

EECS 127/227A: Optimization Models in Engineering, UC Berkeley — Spring 2020
Instructor: Prof. Gireeja Ranade
Graduate Student Instructor

CS 170: Efficient Algorithms and Intractable Problems, UC Berkeley — Spring 2019
Instructors: Prof. Prasad Raghavendra and Prof. Luca Trevisan
Graduate Student Instructor

CS 70: Discrete Mathematics and Probability Theory, UC Berkeley — Fall 2018
Instructors: Prof. Alistair Sinclair and Prof. Yun Song
Graduate Student Instructor
Outstanding GSI Award

MA 214: Introduction to Numerical Analysis, IIT Bombay — Summer 2014
Instructor: Prof. Sivaji Ganesh
Undergraduate Student Instructor

Professional Service

Reviewer: ICML 2019, COLT 2019, SODA 2019, FOCS 2020, Annals of Statistics, Bernoulli

External Reviewer: AAAI 2017, KDD 2017, ISIT 2018, ITSP

Selected Coursework

At UC Berkeley: STAT 205A and B (Probability Theory A and B), STAT 210A and B (Theoretical Statistics A and B), MATH 202B (Introduction to Analyis and Topology B), CS 270 (Combinatorial Algorithms and Data Structures), CS 294 (Special Topics in Computer Science - Sum of Squares), CS 280 (Computer Vision), CS 267 (Applications of Parallel Computers)

At IIT Bombay: CS 709 (Convex Optimization), CS 435 (Linear Optimization), EE 636 (Matrix Computations), CS 729 (Statistical Machine Learning), CS 726 (Advanced Machine Learning)