

Vatsal Sharan

CONTACT INFORMATION	5th year Ph.D. Student, Dept. of Electrical Engineering, Stanford University	e-mail: vsharan@stanford.edu
INTERESTS	Machine Learning, Learning Theory, Algorithms	
EDUCATION	Stanford University <i>Ph.D. in Electrical Engineering, Grade Point Average = 3.90/4.00</i> 2014 – present <i>Research Advisor: Prof. Gregory Valiant, Dept. of Computer Science</i>	
	Indian Institute of Technology Kanpur <i>B.Tech. in Electrical Engineering, Cumulative Performance Index (CPI) = 9.9/10</i> 2010 – 2014	
INTERNSHIP	VMware Research, Palo Alto (with Dr. Parikshit Gopalan) 2017 <i>Worked on matrix sketching approaches for approximating PCA based anomaly scores.</i>	
RELEVANT PUBLICATIONS	Vatsal Sharan, Aaron Sidford, Gregory Valiant “ <i>Memory-sample Tradeoffs for Linear Regression with Small Error</i> ”, STOC 2019 Hongyang Zhang, Vatsal Sharan, Moses Charikar and Yingyu Liang “ <i>Recovery Guarantees for Quadratic Tensors with Limited Observations</i> ”, AISTATS 2019 Shivam Garg, Vatsal Sharan, Brian Zhang, Gregory Valiant “ <i>A Spectral View of Adversarially Robust Features</i> ”, NeurIPS 2018 (<i>Spotlight</i>) Vatsal Sharan, Parikshit Gopalan, Udi Wieder, “ <i>Efficient Anomaly Detection via Matrix Sketching</i> ”, NeurIPS 2018 Vatsal Sharan, Sham Kakade, Percy Liang, Gregory Valiant, “ <i>Prediction with a Short Memory</i> ”, STOC 2018 Kai Sheng Tai, Vatsal Sharan, Peter Bailis, Gregory Valiant, “ <i>Sketching Linear Classifiers over Data Streams</i> ”, SIGMOD 2018 Edward Gan, Jialin Ding, Kai Sheng Tai, Vatsal Sharan, Peter Bailis, “ <i>Moment-Based Quantile Sketches for Efficient High Cardinality Aggregation Queries</i> ”, VLDB 2018 Vatsal Sharan, Sham Kakade, Percy Liang, Gregory Valiant, “ <i>Learning Overcomplete HMMs</i> ”, NeurIPS 2017 Vatsal Sharan, Gregory Valiant, “ <i>Orthogonalized Alternating Least Squares: A Theoretically Principled Tensor Factorization Algorithm for Practical Use</i> ”, ICML 2017	
DISTINCTIONS	<ul style="list-style-type: none">• Invited speaker at China Theory Week, Tsinghua University• Invited speaker at SIAM Annual Meeting, Portland• Selected for Irwin Mark Jacobs and Joan Klein Presidential Fellowship, MIT• Selected for Gordon Wu Fellowship, Princeton• Director’s Gold Medal for best all-round performance and leadership, IIT Kanpur• Ranked 2nd in Class of 2014, IIT Kanpur (out of 820 students)• Best Final Year Project in Electrical Engineering, IIT Kanpur• Honda Young Engineer and Scientist Award• OP Jindal Engineering and Management Scholarship (OPJEMS)	2018 2018 2014 2014 2014 2014 2014 2013 2013

RELEVANT
COURSES

Statistics & Machine Learning: Probabilistic Graphical Models, Theoretical Perspectives on Machine Learning, Statistical Learning, Convex Optimization, Statistical Signal Processing, Information Theory & Statistics, Statistical Simulation & Data Analysis, Applied Stochastic Processes
Mathematics: Martingale Theory & Ergodic Theory, Probability Theory, Real Analysis
Algorithms: Pseudorandomness, Computational Complexity, Algorithmic Techniques for Big Data, Algebraic Graph Algorithms, Randomized Algorithms

TEACHING AND
SERVICE

Teaching Assistant: Modern Algorithmic Toolbox, Randomized Algorithms, Fourier Transforms
Reviewer: STOC, FOCS, SODA, COLT, ICML, NeurIPS

VOLUNTEER
WORK

Co-President, Asha for Education - Asha for Education is a not for profit organization working for the education of underprivileged children in India through about ten projects on programs such as after-school assistance and technology-enabled learning. Served as one of the coordinators of the group, and jointly led fundraising activities.

Community Associate, Graduate Life Office - Worked as a Community Associate for Escondido Village in Stanford housing to make graduate student life more fun, rewarding and comfortable.

Coordinator, Counselling Service - Coordinated a team of 200 students and activities like the Orientation Programme of the freshers to provide academic, financial and emotional assistance to students.