

Aditya Krishnan

Ph.D. Student in Computer Science, Johns Hopkins University

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Research Interests	Sketching & streaming, coresets methods, numerical linear algebra, dimensionality reduction, scalable machine learning, theory of algorithms, optimization	
Education	Johns Hopkins University , Whiting School of Engineering Ph.D. in Computer Science Advisor: Vladimir Braverman	2018 - Present
	Carnegie Mellon University , School of Computer Science M.S. in Computer Science Advisor: Anupam Gupta Thesis: Pricing Online Metric Matching Algorithms on Trees	2017 - 2018
	Carnegie Mellon University , School of Computer Science B.S. in Computer Science and Minor in Engineering Studies	2013 - 2017
Experience	Science Intern , Pinecone Advisor: Edo Liberty , CEO and Founder of Pinecone <i>Designed and implemented a novel, product quantization based, algorithm for vector similarity search.</i>	Summer 2021
Publications and Preprints	<p><i>Authors appear in alphabetical order as in the tradition of mathematics and theoretical computer science unless otherwise mentioned. Where applicable (*) denotes equal contribution of authors.</i></p> <p>Projective Clustering Product Quantization, with E. Liberty. 2021. <i>In submission.</i></p> <p>Sublinear Time Spectral Density Estimation, with V. Braverman and C. Musco. 2021. <i>In submission.</i></p> <p>Lifelong Learning with Sketched Structural Regularization, H. Li, A. Krishnan*, J. Wu*, S. Kolouri*, P. K. Pilly and V. Braverman. <i>Asian Conference on Machine Learning (ACML)</i>, 2021.</p> <p>Near-Optimal Entrywise Sampling of Numerically Sparse Matrices, with V. Braverman, R. Krauthgamer, and S. Sapir. <i>Conference on Learning Theory (COLT)</i>. PMLR, 2021.</p> <p>Schatten Norms in Matrix Streams: Hello Sparsity, Goodbye Dimension, with V. Braverman, R. Krauthgamer, and R. Sinoff. <i>International Conference on Machine Learning (ICML)</i>, 2020.</p> <p>Competitively Pricing Parking in a Tree, with M. Bender, J. Gilbert, and K. Pruhs. <i>Conference on Web and Internet Economics (WINE)</i>, 2020.</p> <p>On Sketching the q to p Norms, with S. Mohanty and D. P. Woodruff. <i>International Conference on Approximation Algorithms for Combinatorial Optimization Problems (APPROX)</i>, 2018.</p>	

Awards	JHU Computer Science Department Fellowship	2018 - 2019
Talks	Schatten Norms in Matrix Streams: The Role of Sparsity ICML 2020, Online JHU CS Theory Seminar, Baltimore	Jul 2020 Feb 2020
	Pricing Online Metric Matching Algorithms on Trees CMU, Pittsburgh	May 2018
Teaching	Introduction to Algorithms, JHU Teaching Assistant	Fall 2019, Spring 2020
	Approximation Algorithms, JHU Teaching Assistant	Spring 2021
Service	Seminar Organizer JHU Theory Seminar Fall 2021	
	Conference Reviewer NeurIPS 2021, ICML 2021, STOC 2021, SODA 2021, RSEML 2021, SOSA 2020, PODS 2020, CSR 2019	
Relevant Coursework	JHU: Parallel Programming, Cloud Computing	
	CMU: Algorithms for Big Data, Advanced Algorithms, Graduate Artificial Intelligence, Introduction to Machine Learning, Distributed Systems, Graph Theory	
Skills	Python, \LaTeX , C, Java	
References	Edo Liberty, CEO and Founder, Pinecone edo@edoliberty.com	
	Christopher Musco, Assistant Professor, New York University cmusco@nyu.edu	
	Vladimir Braverman, Associate Professor, Johns Hopkins University vova@cs.jhu.edu	