BOBBY SHI

bhshi@utexas.edu

EDUCATION

UNIVERSITY OF TEXAS AT AUSTIN *Expected May 2026*
Ph.D., Electrical and Computer Engineering GPA: 3.96
Advised by Rachel Ward

UNIVERSITY OF CHICAGO *June 2020*
M.S., Computer Science

UNIVERSITY OF CHICAGO *June 2020*
B.S., Mathematics Overall GPA: 3.754
Major GPA: 3.840

PUBLICATIONS

Preprints

1. Bobby Shi, Julia Lindberg, and Joe Kileel. Efficient tensor decomposition via moment matrix extension, 2025.

Journal papers

1. Joe Neeman, Bobby Shi, and Rachel Ward. Concentration inequalities for sums of markov-dependent random matrices. *Information and Inference: A Journal of the IMA*, 13(4):iaae032, December 2024

2. Abolfazl Hashemi, Hayden Schaeffer, Robert Shi, Ufuk Topcu, Giang Tran, and Rachel Ward. Generalization bounds for sparse random feature expansions. *Applied and Computational Harmonic Analysis*, 2022.

Conference papers

1. Yuege Xie, Bobby Shi, Hayden Schaeffer, and Rachel Ward. Shrimp: Sparser random feature models via iterative magnitude pruning. In *Proceedings of the 3rd Mathematical and Scientific Machine Learning Conference*.

TEACHING EXPERIENCE

Foundations of Machine Learning - *University of Texas at Austin*, *Teaching Assistant*
Linear Algebra - *University of Chicago*, *Grader*
Abstract Linear Algebra - *University of Chicago*, *Grader*

HONORS AND AWARDS

Professional Development Award - *University of Texas at Austin* *2024*
Engineering Fellowship - *University of Texas at Austin* *2020*
Liew Family Research Grant Recipient - *University of Chicago* *2019*
President's Scholar - *University of Chicago* *2016*

INVITED PRESENTATIONS

Poster Presentation - *Statistics Meets Tensors, Chicago* *2025*
Invited Talk - *Joint Mathematics Meetings, Seattle* *2025*
Poster Presentation - *SIAM Conference on Mathematics of Data Science, Atlanta* *2024*
Invited Talk - *SIAM Conference Texas-Louisiana Section, Waco* *2024*

SERVICE

Reviewer - *Statistica Sinica* *2025*
Reviewer - *AISTATS* *2024, 2025*
Mathematics Directed Reading Program - *University of Texas at Austin* *Fall 2022, Summer 2023*

GRADUATE COURSEWORK

Bayesian Statistics
Advanced Probability in Learning, Inference and Networks
Approximation Algorithms and Complexity
Geometric Methods in Data Science
Foundational Techniques of Machine Learning and Data Sciences
Automated Logical Reasoning
Convex Optimization
Probability and Stochastic Processes
Combinatorial Optimization
Introduction to the Theory of Machine Learning - *TTIC*
Spectral Methods for Machine Learning and Network Analysis - *University of Chicago*
Inverse Problems and Data Assimilation - *University of Chicago*

TECHNICAL SKILLS

Python, including frameworks such as PyTorch, TensorFlow, JAX
Julia
MATLAB
C
SQL
R