BOBBY SHI

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rhshi.github.io

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

B.S., Mathematics

PUBLICATIONS

Preprints

1. **Bobby Shi**, Kevin Tian, and Matthew S. Zhang. Perspectives on stochastic localization, 2025

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

Journal papers

3. 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

4. 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

5. 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*.

INVITED TALKS AND PRESENTATIONS

Perspectives on Stochastic Localization

Mathematical Foundations of Generative AI, *University of Texas at Austin*	2025
Seminar, *University of Texas at Austin*	2025
Data, Optimization, and Sampling Seminar, *University of Texas at Austin*	2025

Efficient Tensor Decomposition

Data and Algebra Seminar, *University of Texas at Austin*	2025
Tensor Methods, *University of Texas at Austin*	2025
SIAM Conference Texas-Louisiana Section, *University of Texas at Austin*	2025

IMSI Statistics Meets Tensors, *University of Chicago*   2025

Joint Mathematics Meetings, *Seattle*   2025

SIAM Conference Texas-Louisiana Section, *Baylor University*   2024

Concentration Inequalities for Markov Dependent Random Matrices

EnCORE's Fall 2025 Collaboration Workshop, *University of California, San Diego*   2025

SIAM Conference on Mathematics of Data Science, *Atlanta*   2024

SERVICE

Reviewer   AISTATS (2024, 2025, 2026), Proceedings of the AMS, Journal of Optimization Theory and Applications, Statistica Sinica

Teaching and Mentorship   Foundations of Machine Learning and Data Science (TA, Spring 2025, Spring 2023), Mathematics Directed Reading Program (Fall 2022, Summer 2023)

Organized the **Data, Optimization, and Sampling seminar** in the Fall of 2025

Served as **department Graduate Student Assembley representative** in the Fall of 2022 and Spring of 2023

HONORS AND AWARDS

Best Poster Award - *SIAM Conference Texas-Louisiana Section*   2025

Professional Development Award - *University of Texas at Austin*   2024

Engineering Fellowship - *University of Texas at Austin*   2020

Liew Family Research Grant - *University of Chicago*   2019

President's Scholar - *University of Chicago*   2016

TECHNICAL SKILLS

Python (PyTorch, TensorFlow, JAX), Julia, MATLAB, C, SQL, R