

# BOBBY SHI

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rhshi.github.io

## EDUCATION

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### 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

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### 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

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### 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, <i>University of Chicago</i>	2025
Joint Mathematics Meetings, <i>Seattle</i>	2025
SIAM Conference Texas-Louisiana Section, <i>Baylor University</i>	2024
<b>Concentration Inequalities for Markov Dependent Random Matrices</b>	
EnCORE's Fall 2025 Collaboration Workshop, <i>University of California, San Diego</i>	2025
SIAM Conference on Mathematics of Data Science, <i>Atlanta</i>	2024

## SERVICE

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**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 Assembly representative** in the Fall of 2022 and Spring of 2023

## HONORS AND AWARDS

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Best Poster Award - <i>SIAM Conference Texas-Louisiana Section</i>	2025
Professional Development Award - <i>University of Texas at Austin</i>	2024
Engineering Fellowship - <i>University of Texas at Austin</i>	2020
Liew Family Research Grant - <i>University of Chicago</i>	2019
President's Scholar - <i>University of Chicago</i>	2016

## TECHNICAL SKILLS

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