

# 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. Anming Gu, **Bobby Shi**, and Kevin Tian. Functional stochastic localization, 2026
2. **Bobby Shi**, Kevin Tian, and Matthew S. Zhang. Perspectives on stochastic localization, 2025
3. **Bobby Shi**, Julia Lindberg, and Joe Kileel. Efficient tensor decomposition via moment matrix extension, 2025.

### Journal papers

4. 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
5. 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

6. 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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### Efficient Tensor Decomposition

AMS Spring Western Sectional Meeting, *Boise State University* 2026

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>Stochastic Localization</b>	
Mathematical Foundations of Generative AI, <i>University of Texas at Austin</i>	2025
Seminar, <i>University of Texas at Austin</i>	2025
Data, Optimization, and Sampling Seminar, <i>University of Texas at Austin</i>	2025
<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

<b>Reviewer</b>	AISTATS (2024, 2025, 2026), Proceedings of the AMS, Journal of Optimization Theory and Applications, Statistica Sinica
<b>Teaching and Mentorship</b>	Foundations of Machine Learning and Data Science (TA, Spring 2025, Spring 2023), Mathematics Directed Reading Program (Fall 2022, Summer 2023)
	Organized the <b>Data, Optimization, and Sampling seminar</b> in the Fall of 2025
	Served as <b>department Graduate Student Assembly representative</b> in the Fall of 2022 and Spring of 2023

### HONORS AND AWARDS

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

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