

YIFAN ZHANG

EDUCATION

University of Texas at Austin

Ph.D. Program in Computational Science, Engineering, and Mathematics (CSEM)

September 2020 - Current

GPA: 3.973/4.000

University of Illinois at Urbana-Champaign

Bachelor of Science in Mathematics

Bachelor of Science in Engineering Physics

Bachelor of Science in Statistics

Minor in Computer Science and Computational Science and Engineering

May 2020

Bronze Tablet

GPA: 3.987/4.000

PUBLICATIONS & PREPRINTS

1. **Zhang, Yifan**, and Joe Kileel. "Moment Estimation for Nonparametric Mixture Models through Implicit Tensor Decomposition." *arXiv preprint arXiv:2210.14386* (2022). <https://arxiv.org/abs/2210.14386>
2. Ju, Caleb, **Yifan Zhang**, and Edgar Solomonik. "Communication Lower Bounds for Nested Bilinear Algorithms." *arXiv preprint arXiv:2107.09834* (2021). <https://arxiv.org/abs/2107.09834>
3. **Zhang, Yifan**, and Edgar Solomonik. "On stability of tensor networks and canonical forms." *arXiv preprint arXiv:2001.01191* (2020). <https://arxiv.org/abs/2001.01191>
4. Chen, Xinxin, Adam Dor-On, Langwen Hui, Christopher Linden, and **Yifan Zhang**. "Doob equivalence and non-commutative peaking for Markov chains." *J. Noncommut Geom* (2019). <https://arxiv.org/abs/1911.10423>

ABOUT CURRENT RESEARCH

Currently, my other general research interests include:

- Numerical analysis, especially in tensors and its applications.
- Probability theory, especially in randomized numerical analysis, random matrix and tensor problems.

PRESENTATIONS

1. *Hamiltonian theory of self-gravitating fluids*. NCSA Gravity Symposium, NCSA, UIUC, 2019. 5.
2. *Conditional equivalence and non-commutative peaking of Markov Chains*. Wabash Conference of Modern Analysis, IUPUI, 2019.9.

HONORS & AWARDS

NIMS Fellowship 2020-2024

A merit-based prize for incoming PhD students at the Oden Institute, Univ. of Texas at Austin.

Elizabeth-Bennett Scholarship 2019-2020

A recognition of Mathematical study and research, UIUC.

Bronze Tablet 2020

Awarded to top 3% of the university graduating class at UIUC.

IGL Research Award 2019-2020, Winner

Awarded to the best annual research outcome among about 20 faculty-led projects in the IGL program, UIUC.

ACADEMIC APPOINTMENTS & SERVICE

Academic Services

Grader

- Time Series Analysis (STAT 429, UIUC) Fall 2019
- Mathematical Statistics I (STAT 400, UIUC) Spring 2020

Volunteer Math Tutor in Urbana Community

September 2017 – December 2017

Volunteer tutor

- Prepared materials and delivered small math classes in English to elementary and middle school students weekly in Urbana community as a volunteer at a church.