TIANZE JIANG

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EDUCATION

Ph.D., Princeton University Operations Research and Financial Engineering **2024 - present**

Advisor: Prof. Boris Hanin.

B.S., Massachusetts Institute of Technology Mathematics and Computer Science (GPA: 5.0/5.0) **2020 - 2024**

Selected Honors and Awards:

- Francis Robbins Upton Graduate Fellowship 2024
- William Lowell Putnam Math Competition, N1 (top 15 overall) 2021
- International Math Olympiad (IMO), Team USA, Silver Medal 2020
- USA Math Olympiad (USAMO) winner, 5th place nationwide 2020
- Asian Pacific Math Olympiad, 3rd place worldwide 2020
- Chinese International Math Olympiad (IMO) Team Candidate (top 15 overall) 2018

SELECTED RESEARCH

*Papers in this section are *all* under joint first-authorship, ordered *alphabetically*

1. Boris Hanin, **TJ**, "*Global Universality of Singular Values in Products of Many Large Random Matrices.*" (2025+) Paper.
2. Patrik Gerber, **TJ**, Yury Polyanskiy, Rui Sun, "*Density estimation using the perceptron.*" (2025+) Accepted (minor revision) In: *Journal of Machine Learning Research (JMLR)*. Paper.
3. Yanjun Han, **TJ**, Yihong Wu, "*Prediction from compression for models with infinite memory.*" In: *Proc Conf on Learning Theory (COLT 2024)*, July 2024. Paper.
4. Patrik Gerber, **TJ**, Yury Polyanskiy, Rui Sun, "*Kernel-based Tests for Likelihood-Free Hypothesis Testing.*" In: *Proc 37th Adv Neural Inf Process Syst (NeurIPS 2023)*, December 2023. Paper.
5. Guy Bresler and **TJ**, "*Detection-Recovery and Detection-Refutation Gaps via Reductions from Planted Clique.*" In: *Proc Conf on Learning Theory (COLT 2023)*, July 2023. Paper.
6. Quanlin Chen, **TJ**, Yuxiao Wang, "*On the Generational Behavior of Gaussian Binomial Coefficients at Roots of Unity*". MIT PRIMES (2020). Paper.

SELECTED PRESENTATIONS

- Sampling via stochastic localization, Bresler Research Group, MIT Nov. 2023
- Computational lower bounds via avg. case reductions, Chen Research Group, Harvard Oct. 2023
- Slicing with random half-spaces, Pilanci Research Group, Stanford Apr. 2023
- Slicing with random half-spaces, Bresler Research Group, MIT Apr. 2023
- Likelihood-Free Inference with kernels, Polyanskiy Research Group, MIT Dec. 2022

INDUSTRY EXPERIENCES

Quantitative Research Intern, Citadel Securities, Miami, FL Jun. - Aug. 2024

FICC and Systematic Equities

- Studied market impact of high-frequency trades on the US equities market.
- Constructed trade impact accounting models that are invariant across multiple different time horizons.

Quantitative Research Intern, TongDeng Capital, Shanghai, China May. - Aug. 2021

Chinese Equities

- Studied monetization of Chinese equities under the T+1 constraints.

OTHER EXPERIENCES

- **Reviewer**: IEEE Transactions on Information Theory, Algorithmic Learning Theory (ALT) 2024
- **Grader, Test Reviewer**, IMO (USA) Team Selection Tests. 2021