Rui Yao

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Education

Massachusetts Institute of Technology (MIT) – Cambridge, MA
Ph. D. of MIT EECS - MIT CASIL Theory Group, Advisor: Prof. Costis Daskalakis   Aug. 2023 – Expected May 2028
- **Attended Coursework:** 6.S891 Algorithmic Counting and Sampling: Probability, Polynomials, and More; 6.S896 Algorithmic Statistics

Massachusetts Institute of Technology (MIT) – Cambridge, MA
Master of Engineering - Conc. in Theoretical Computer Science   Aug. 2022 – May 2023

Massachusetts Institute of Technology (MIT) – Cambridge, MA   GPA: 5.0/5.0
B.S. in Computer Science and Math (General)   Aug. 2019 – May 2022
- **Relevant Coursework:** 18.675 Theory of Probability, 6.867 Advanced Machine Learning, 6.850 Geometric Computing, 6.854 Advanced Algorithms, 6.849 Geometric Folding Algorithms, 18.404 Theory of Computation, 6.851 Advanced Data Structures, 6.437 Inference and Information, 6.851 Advanced Complexity Theory, 14.12 Game Theory
- Research Interest: Theoretical Computer Science (Algorithms), Statistics, Algorithm, Machine Learning

Tsinghua University – Beijing, China   GPA: 3.73/4.0
Institute of Interdisciplinary Information for Sciences (IIIS)   Aug. 2018 – Aug. 2019

Publication

Efficient Truncated Linear Regression with Unknown Noise Variance
Co-author with Prof. Costis Daskalakis, Patroklos Stefanou, and Manolis Zampetakis, accepted by NeurIPS 2021   Jun. 2021

Learning Gaussian DAG Models without Condition Number Bounds
Co-author with Costis Daskalakis and Vardis Kandiros, accepted by ICML 2025   Feb. 2025

Working Paper

Fixed Point Computation: Beating Brute Force with Smoothed Analysis
Co-author with Costis Daskalakis and Vardis Kandiros   Nov. 2024

Estimating Ising Models in Total Variation Distance
Co-author with Idan Attias, Yuval Dagan, Costis Daskalakis, and Manolis Zampetakis.   Apr. 2025

Research and Working Experience

Researcher Intern - Athena Research Center, Athens, Greece
Archimedes Summer Program   May 2024 – July 2024, June 2022 – Aug. 2022
- Participated in the Archimedes Summer Program, which focuses on research for algorithms, machine learning, and statistics
- Researched with Prof. Constantinos Daskalakis, Prof. Yuval Dagan, etc. on various topics including causality, high dimensional statistics, fixed point computation, etc.
- Attended talks given by other professors and students, and also gave a talk on Truncated Statistics
- Attended WALE workshop and presented a poster on Truncated Linear Regression results

Quantitative Trader Intern - New York, NY
Tower Research Capital   June 2023 – Aug. 2023
- Researched the dataset of the market of virtual currencies
- Worked on finding the cross-coin signals (alphas) of the dataset, and built several trading strategies based on the signals
- On the virtual trading experiments, the signals made a profit for most of the days and got a good profit-per-value ratio

Extracurricular Awards

Morais (1986) and Rosenblum (1986) Fund UROP Award
For "Efficient Truncated Linear Regression with Unknown Noise Variance". Supervised by Costis Daskalakis.   2023

The 82nd William Lowell Putnam Mathematical Competition
Ranked 7th out of 2975 in a university-level mathematics examination   Dec. 2021

The 80th William Lowell Putnam Mathematical Competition
Ranked 6th out of 4229 in a university-level mathematics examination   Dec. 2019

59th IMO Silver medalist
Ranked 49th out of 594 contestants   Aug. 2018