Luhao Zhang

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Positions

Columbia University, New York, NY, USA — Sep 2023 -

Postdoctoral Research Scientist, Department of IEOR
Mentor: Xunyu Zhou

Education

The University of Texas at Austin, Austin, TX, USA

Ph.D. in Mathematics — Aug 2018 - Aug 2023
Advisor: Thaleia Zariphopoulou

Xi'an Jiaotong University, Xi'an, Shaanxi, China

B.S. in Mathematics and Applied Mathematics (Honors Program) — Aug 2014 - June 2018
Special Class for the Gifted Young

Research Papers

Publications

1. Luhao Zhang, Jincheng Yang, Rui Gao. *Optimal Robust Policy for Feature-Based Newsvendor* (2022), ***Management Science***, forthcoming.

Preprints

2. Luhao Zhang, Jincheng Yang, Rui Gao. *A Simple and General Duality Proof for Wasserstein Distributionally Robust Optimization*, submitted to ***Operations Research***.
3. Jincheng Yang, Luhao Zhang, Ningyuan Chen, Rui Gao, Ming Hu. *Decision-making with Side Information: A Causal Transport Robust Approach*, preprint to be submitted to ***Operations Research***.
4. Luhao Zhang, Renyuan Xu, Thaleia Zariphopoulou. *Reversible and Irreversible Decisions under Costly Information Acquisition*, preprint to be submitted to ***Operations Research***.

Conference papers

5. Luhao Zhang, Mohsen Ghassemi, Ivan Brugere, Alan Mishler, Niccolo Dalmasso, Vamsi Potluru, Tucker Balch, Manuela Veloso. *Conditional Demographic Parity Through Optimal Transport* (2022), accepted by ***NeurIPS*** Workshop on Algorithmic Fairness through the Lens of Causality and Privacy.

Industry Experience

J.P.Morgan Chase, AI Research, New York, NY

AI Researcher (Intern) — June - Aug 2022

- Developed an efficient algorithm to achieve conditional demographic parity using causal transport distance

- Preliminary results accepted by *NeurIPS Workshop on Algorithmic Fairness through the Lens of Causality and Privacy*

Award

Frank Gerth III Teaching Excellence Award, UT Austin — 2021
Selected to present at the Cornell ORIE Young Researchers Workshop — Summer 2021
Graduate School Summer Fellowship, UT Austin, — Summer 2021
Graduate Continuing Bruton Fellowship, UT Austin, — Spring 2022
Professional Development Award, UT Austin, — Spring, Fall 2022

Invited Talks

- Robust Optimization Webinar Series — May 2021
- International Conference of the Chinese Scholars Association for Management Science and Engineering (CSAMSE), Shanghai Jiaotong University — July 2021
- Cornell ORIE Young Researchers Workshop, Ithaca, NY — Oct 2021
- INFORMS Annual Meeting, Anaheim, CA — Oct 2021
- Conference on Artificial Intelligence, Machine Learning, and Business Analytics, Rutgers University — Dec 2021
- Texas Women in Math Symposium, Rice University — Feb 2022
- INFORMS Optimization Society Conference, Greenville, SC — March 2022
- SIAM Annual Meeting, Pittsburgh, PA — July 2022
- INFORMS Annual Meeting, Indianapolis, IN — Oct 2022

Professional Service

Referee

- Mathematical Programming
- 3rd ACM International Conference on AI in Finance

Session Chair

- INFORMS 2021 invited session of Learning and Decision-making with Contextual Information
- INFORMS 2022 invited session of Data-driven Decision Making

Teaching experience

UT Austin, Teaching Assistant

- M408D *Sequences, Series, and Multivariable Calculus* 4.2/5.0 — Fall 2018
- M348 *Scientific Computation in Numerical Analysis* N/A — Spring, Fall 2019
- M427L *Advanced Calculus for Applications II* 4.1/5.0 — Spring 2020
- MF325K *Discrete Mathematics* 4.3/5.0 — Summer 2020
- M362K *Probability* 4.3/5.0 — Fall 2020
- M358K *Applied Statistics* 4.0/5.0 — Fall 2021
- M408K *Differential Calculus* 4.5/5.0 — Spring 2021

- M378K *Introduction to Mathematical Statistics* 4.0/5.0 Spring, Fall 2022

MENTORSHIP

Directed Reading Program

- Sonali Singh, on the topic of *Stochastic Calculus for Finance* Spring 2020
- Wenxuan Jiang, on the topic of *Stochastic Calculus for Finance* Fall 2021
- Haoze Yan, on the topic of *Stochastic Programming* Spring, Fall 2022
- Yuxiang Gao, on the topic of *Elements of Statistical Learning* Spring 2022