

Research Interests

Market design, game theory, optimization, machine learning, statistical inference

Education

- 2021–2026 **PhD in Decision, Risk and Operations**, *Columbia University*, New York, USA
Columbia Business School
Advisor: Hongyao Ma
- 2017–2021 **Bachelor's in Computer Science**, *Tsinghua University*, Beijing, China
Institute for Interdisciplinary Information Sciences (Yao Class)

Research Visits

- 01–08/2020 **Visiting Undergraduate Researcher**, *California Institute of Technology*, Pasadena, CA
Advisor: Adam Wierman
- 06–08/2019 **Visiting Scholar**, *University of Michigan*, Ann Arbor, MI
Advisor: Grant Schoenebeck

Industry Experience

- 06–08/2024 **PhD Software Engineer Intern**, *Uber Technologies, Inc.*, San Francisco, CA, USA
Develop machine learning models to estimate trip completion rate, which is used in driver matching decisions. Explore causal effect of matching decisions via instrumental variables (price wiggling).
- 01–02/2019 **Machine Learning Researcher**, *Tencent AI Lab*, Shenzhen, China
Work on learning feature-disentangled embeddings for images in unsupervised settings.

Working Papers

Chenkai Yu, Hongyao Ma. Iterative Network Pricing for Ridesharing Platforms. *arXiv preprint arXiv:2311.08392*. Reject and Resubmit at *Management Science*.

Chenkai Yu, Arpit Agarwal, Hongyao Ma. Who Ate the Lunch? A Belief Propagation Algorithm for Identifying Refund Hunters.

Publications

(The * sign denotes alphabetical order.)

Chenkai Yu, Hongyao Ma, Adam Wierman. Price Cycles in Ridesharing Platforms. In *International Conference on Web and Internet Economics*, **WINE**, 2023.

Chenkai Yu, Guanya Shi, Soon-Jo Chung, Yisong Yue, Adam Wierman. Competitive Control with Delayed Imperfect Information. In *American Control Conference*, **ACC**, 2022.

Tongxin Li, Ruixiao Yang, Guannan Qu, Guanya Shi, Chenkai Yu, Adam Wierman, Steven Low. Robustness and consistency in linear quadratic control with untrusted predictions. In *Proceedings of the ACM on Measurement and Analysis of Computing Systems*, **SIGMETRICS**, 2022.

Guannan Qu, Chenkai Yu, Steven Low, Adam Wierman. Exploiting linear models for model-free nonlinear control: A provably convergent policy gradient approach. In *IEEE Conference on Decision and Control*, **CDC**, 2021.

Grant Schoenebeck*, Chenkai Yu*, Fang-Yi Yu*. Timely Information from Prediction Markets. In *Proceedings of the 20th International Conference on Autonomous Agents and MultiAgent Systems*, **AAMAS**, 2021.

Chenkai Yu, Guanya Shi, Soon-Jo Chung, Yisong Yue, Adam Wierman. The Power of Predictions in Online Control. In *Advances in Neural Information Processing Systems*, **NeurIPS**, 2020.

Awards

- 06/2023 **Deming Doctoral Fellowship**, *Columbia Business School*
- 09/2020 **Andrew C. Yao Award**, *Tsinghua University*
Top 25% in Yao Class.
- 10/2018 **National Scholarship**, *Tsinghua University*
Ranked 1/222 in Department of Computer Science and Technology.
- 07/2016 **Silver Prize in National Olympiad in Informatics (NOI)**, China

Presentations

- 06/2025 **INFORMS APS Conference**, Atlanta, GA
- 04/2025 **DRO Brown Bag Seminar**, *Columbia Business School*, New York, NY
- 07/2024 **INFORMS RMP Conference**, Los Angeles, CA
- 07/2024 **INFORMS MSOM Conference**, Minneapolis, MN
- 05/2024 **Deming Doctoral Fellowship Seminar**, *Columbia Business School*, New York, NY
- 01/2024 **RSRG/FALCON Tea**, *Caltech*, Pasadena, CA
- 12/2023 **Conference on Web and Internet Economics (WINE)**, Shanghai, China
- 10/2023 **INFORMS Annual Meeting**, Phoenix, AZ
- 10/2022 **INFORMS Annual Meeting**, Indianapolis, IN
- 09/2022 **DRO Brown Bag Seminar**, *Columbia Business School*, New York, NY
- 06/2022 **American Control Conference**, Atlanta, GA
- 10/2021 **INFORMS Annual Meeting**, Online
- 05/2021 **International Conference on Autonomous Agents and Multiagent Systems**, Online
- 12/2020 **Conference on Neural Information Processing Systems (NeurIPS)**, Online
- 08/2020 **Workshop on Mechanism Design for Social Good**, Online

Teaching

- Summer 2025 Teaching Assistant for B6102 Operations Management
- Spring 2025 Teaching Assistant for B5102 Operations Management
- Fall 2024 Teaching Assistant for B6100 Managerial Statistics
- Spring 2024 Teaching Assistant for B5102 Operations Management
- Spring 2024 Teaching Assistant for B6100 Managerial Statistics
- Fall 2023 Teaching Assistant for B6100 Managerial Statistics
- Spring 2023 Teaching Assistant for B5102 Operations Management

Spring 2023 Teaching Assistant for B6100 Managerial Statistics

Advising

04-12/2023 Co-advising Barnard College student Jingwen Zhang