Jiayu Kamessi Zhao

Operations Research Center (ORC)
Massachusetts Institute of Technology

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Candidate for PhD in Operations Research 2020 - 2025 (Expected)
GPA: 5.0/5.0 Advisor: Daniel Freund

Columbia University, New York, NY 2016 - 2020
B.S. in Operations Research: Financial Engineering
Summa Cum Laude

RESEARCH INTERESTS

My research focuses on platform operations and market design problems in online marketplaces. In tackling these challenges, my works lie at the intersection of online algorithms, stochastic decision-making, and game theory.

PUBLICATIONS AND PREPRINTS

"Two-sided Platform Flexibility", with D. Freund and S. Martin. 2023. Working Paper.

"On the Supply of Autonomous Vehicles in Open Platforms", with D. Freund and I. Lobel. 2023. Under review.

"End-of-Horizon Load Balancing Problems: Algorithms and Insights", with D. Freund and C. Hssaine. 2023. Under review.

"Overbooking with Bounded Loss", with D. Freund. 2022. Mathematics of Operations Research 48(3): 1344-1363. An earlier version appeared at the Twenty-Second ACM Conference on Economics and Computation (EC'21).

SELECTED TALKS

"On the Supply of Autonomous Vehicles in Open Platforms." Presented at INFORMS 2023; Cornell Young Reseachers Workshop, 2023; MSOM Conference 2023; Marketplace Innovation Workshop 2023; INFORMS 2022.

"Overbooking with Bounded Loss." Presented at EC'21; INFORMS 2021; ORC Student Seminar, 2022.

WORK EXPERIENCE

Uber Technologies, Inc., San Francisco, CA Summer 2023
Applied Scientist PhD Intern
Conducted convex optimization for UberEats' real-time pricing algorithm; devised solutions to enhance the chained supply model used for dampening surge demand.

AllianceBernstein L.P., New York, NY Summer 2019
Quantitative Research Intern
Formulated a market timing strategy to adopt stock-bond relative return before month end as a trading signal by verifying the existence of month-end re-balancing flows.

Columbia Business School, New York, NY Summer 2018
Summer Research Intern
Validated the tendency for active funds to trade against passive flows by applying econometric and statistical tools to historical data on mutual fund portfolio disclosures.

TEACHING EXPERIENCE

Massachusetts Institute of Technology, Cambridge, MA 2022-2023
Teaching Assistant for *(i) Common Experience in OR* and *(ii) Intro to Operations*
Held recitation sessions and prepared materials on (i) pricing, contracting, and inventory management and (ii) deep-learning for computer vision and NLP models.

Columbia University, New York, NY Fall 2018
Teaching Assistant for Ordinary Differential Equations/Probability for Engineers

Graded courses materials, held office hours, drafted homework solutions, and administered course logistics.

MIT ACTIVITIES

MIT ORC Seminar Series student coordinator	2023 Fall
MIT Operations Management Seminar student co-organizer	2021-2023

PROFESSIONAL SKILLS

Programming Skills: Python, Julia, Gurobi, SQL, MATLAB, R
Softwares: LaTeX, Word, Excel, PowerPoint
Languages: English (proficient), Mandarin (native)