

Jiayu Kamessi Zhao

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EDUCATION

Massachusetts Institute of Technology (MIT), 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 studies how modern service platforms, through algorithmic and market designs, can incentivize agents' flexibility to enhance operational efficiency. Through the lens of flexibility designs, I aim to (i) manage incentives across both supply and demand sides of platforms to improve matching efficiency, and (ii) align agents' incentives to adopt new technologies, such as deploying autonomous vehicles on mobility platforms. In tackling these challenges, I apply tools from game theory and stochastic decision-making to transportation, e-commerce, and other platform applications.

PUBLICATIONS AND PREPRINTS

"Two-sided Flexibility in Platforms," with Daniel Freund and Sébastien Martin.
Under Revision, 2024. Available at Arxiv 2404.04709.

- **MIT ORC Best Student Paper Award**, 2024
- Accepted for presentation at 2024 MSOM Conference
- Accepted for presentation at 2024 Revenue Management & Pricing Conference
- Accepted for presentation at 2024 Marketplace Innovation Workshop

"On the Supply of Autonomous Vehicles in Platforms," with Daniel Freund and Ilan Lobel. Major Revision at **Manufacturing & Service Operations Management**.
Available at SSRN 4178508.

- **Twenty-Fifth ACM Conference on Economics and Computation (EC'24)**
- Accepted for presentation at **2024 MSOM Supply Chain Management SIG**
- Accepted for presentation at 2023 Revenue Management & Pricing Conference
- Accepted for presentation at 2023 Marketplace Innovation Workshop

"End-of-Horizon Load Balancing Problems: Algorithms and Insights," with Daniel Freund and Chamsi Hssaine.
Under Revision, 2024. Available at Arxiv 2306.01968.

"Overbooking with Bounded Loss," with Daniel Freund. 2022.
Mathematics of Operations Research 48(3): 1344-1363.

- **Twenty-Second ACM Conference on Economics and Computation (EC'21)**
- Accepted for presentation at 2021 Marketplace Innovation Workshop

WORK IN PROGRESS

"The Value of a Little Flexibility in Stable Matching," with Daniel Freund and Sébastien Martin.
"Incentivizing Driver Commitment through Priority Dispatch," with Daniel Freund.

EXPERIENCES

Uber Technologies, Inc., San Francisco, CA Summer 2023 & 2024
Applied Scientist Intern Supervisors: Ali Sadighian, Shaiza Qayyum, AJ Friend

- Uber Eats Eater Realtime Pricing Team (ERTP)

- Improved the convex optimization program for Uber Eats' real-time pricing and incentive design; enhanced the real-time acceptance rate model and the chained supply model for mitigating surge demand

MIT ORC, Cambridge, MA 2020 - Present
Research Assistant Supervisor: Daniel Freund

Simons Institute for the Theory of Computing, UC Berkeley, CA Fall 2022
 Participant of the Data-Driven Decision Processes Program

Columbia IEOR Department, New York, NY 2018 - 2020
Research Assistant Supervisors: Jay Sethuraman, Soulaymane Kachani.

TEACHING

MIT, Cambridge, MA
 TA for *15.761 Operations Management* (MBA; 200 students). Spring 2022, 2023, 2024
 TA for *15.S25 Experience in Operations Research* (PhD; 20 students) Summer 2022

Columbia University, New York, NY
 TA for *Math 2030 Ordinary Differential Equations* (Undergrad; 40 students) Fall 2018
 TA for *IEOR E3658 Probability for Engineers* (Undergrad; 80 students) Fall 2018

SELECTED TALKS

“Two-sided Flexibility in Platforms.”

- RMP Conference, Jul 2024, Los Angeles CA
- MSOM Conference, Jul 2024, Minneapolis MN
- Marketplace Innovation Workshop, May 2024, Virtual
- MIT LIDS Student Conference, Feb 2024, Cambridge MA
- Xi'an Jiaotong University, Jan 2024, Xi'an, China
- Shanghai University of Finance and Economics, Dec 2023, Shanghai, China

“On the Supply of Autonomous Vehicles in Platforms”

- MSOM Conference Supply Chain Management SIG, Jun 2024, Minneapolis MN
- INFORMS Annual Meeting, Oct 2023, Phoenix AZ
- Cornell Young Researchers Workshop, Oct 2023, Ithaca NY
- INFORMS Annual Meeting, Oct 2022, Indianapolis IN
- Marketplace Innovation Workshop, May 2023, Virtual

“Overbooking with Bounded Loss.”

- EC'21, Jul 2021, Virtual
- INFORMS Annual Meeting, Oct 2021, Virtual
- ORC Student Seminar, Apr 2022, Cambridge MA

PROFESSIONAL SERVICES

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

HONORS AND AWARDS

MIT ORC Best Student Paper Award, 2024
 The Sebastian B. Littauer Award, Columbia University 2020
 Tau Beta Pi Honor Society, Columbia University (NY Chapter) 2018 - 2020
 The Dean's List, Columbia University, 2016 - 2020
 C.P. Davis Scholar, Columbia University 2016