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
Summa Cum Laude

RESEARCH INTERESTS

My research studies how two-sided service platforms, via algorithm and market designs, 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 Review at **Operations Research**, 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."

- University of British Columbia, Imperial College, London Business School, University College London, National University of Singapore, New York University, University of Toronto, Duke University, Stanford University, Columbia University
- INFORMS Annual Meeting, Oct 2024, Seattle WA
- Inaugural OM Rookiepalooza at Kellogg, Oct 2024, Evanston IL
- MIT ORC Fall Seminar Series, Nov 2024, Cambridge MA
- 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"

- MIT Operations Management Seminar, Oct 2024, Cambridge MA
- 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
- MSOM Conference, Jun 2023, Montreal
- 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

REFERENCES

Daniel Freund, MIT **(Ph.D. Advisor)**
Assistant Professor of Operations Management
Sloan School of Management
✉ dfreund@mit.edu

Ilan Lobel, New York University
Professor of Technology, Operations and Statistics
Stern School of Business
✉ ilobel@stern.nyu.edu

Sébastien Martin, Northwestern University
Assistant Professor of Operations
Kellogg School of Management
✉ sebastien.martin@kellogg.northwestern.edu