

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 within gig economies. I am passionate about (i) leveraging flexibility in platforms to design innovative policies, and (ii) studying the interactions & implications of flexibility decisions for market design, e.g., developing incentive-compatible methods to introduce technological innovations to gig economy platforms. In tackling these challenges, my works lie at the intersection of game theory, stochastic decision-making, and online algorithms.

PUBLICATIONS AND PREPRINTS

“Two-sided Flexibility in Platforms,” with D. Freund and S. Martin. Submitted, 2024. Preliminary version available at: <https://arxiv.org/abs/2404.04709>.

- Winner of MIT Operations Research Center Best Student Paper Award, 2024
- Accepted for presentation at 2024 INFORMS Manufacturing and Service Operations Management (MSOM) Conference
- Accepted for presentation at 2024 INFORMS Revenue Management and Pricing (RMP) Conference
- Accepted for presentation at 2024 Marketplace Innovation Workshop

“On the Supply of Autonomous Vehicles in Platforms,” with D. Freund and I. Lobel. Major Revision at **Manufacturing & Service Operations Management**. Preliminary version available at: <https://ssrn.com/abstract=4178508>.

- An earlier version of this paper was accepted at the **Twenty-Fifth ACM Conference on Economics and Computation (EC’24)**, 2024.
- Accepted for presentation at **2024 INFORMS MSOM Supply Chain Management SIG Conference**
- Accepted for presentation at 2023 INFORMS RMP Conference
- Accepted for presentation at 2023 Marketplace Innovation Workshop

“End-of-Horizon Load Balancing Problems: Algorithms and Insights,” with D. Freund and C. Hssaine. Submitted, 2024.

Preliminary version available at: <https://arxiv.org/abs/2306.01968>.

“Overbooking with Bounded Loss,” with D. Freund. 2022. **Mathematics of Operations Research** 48(3): 1344-1363.

- An earlier version of this paper was accepted at the **Twenty-Second ACM Conference on Economics and Computation (EC’21)**, 2021.
- Accepted for presentation at 2021 Marketplace Innovation Workshop

WORK IN PROGRESS

“The Value of a Little Flexibility in Stable Matching,” with D. Freund and S. Martin.

SELECTED TALKS

“Two-sided Flexibility in Platforms.”

- 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
- Shanghai University of Finance and Economics, Dec 2023, Shanghai

“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
- 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

WORK EXPERIENCE

Uber Technologies, Inc., San Francisco, CA Summer 2023 & 2024

Applied Scientist PhD Intern

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.

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

Teaching Assistant for *15.761 Intro to Operations Management*

Spring 2024

Teaching Assistant for *15.761 Intro to Operations Management*

Spring 2023

Teaching Assistant for *15.761 Intro to Operations Management*

Spring 2022

Teaching Assistant for *15.S25 Experience in Operations Research*

Summer 2022

Columbia University, New York, NY

Teaching Assistant for *Math 2030 Ordinary Differential Equations*

Fall 2018

Teaching Assistant for *IEOR E3658 Probability for Engineers*

Fall 2018

PROFESSIONAL SERVICES	MIT ORC Seminar Series student coordinator	Fall 2023
	MIT Operations Management Seminar student co-organizer	2021 - 2023
	Visiting Graduate Student, Data-Driven Decision Processes Program, Simons Institute at UC Berkeley	Fall 2022
HONORS AND AWARDS	MIT Operations Research Center 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