Jackie Baek

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Employment

New York University, Stern School of Business — 2023 -
Assistant Professor, Technology, Operations & Statistics

Simons Institute for the Theory of Computing, UC Berkeley — Fall 2022
Research Fellow in the program *Data-Driven Decision Processes*

Education

Massachusetts Institute of Technology — 2016 - 2022
Ph.D. in Operations Research
Thesis: Decision-Making Under Uncertainty: From Theory to Practice
Advisor: Vivek F. Farias

University of Waterloo — 2011 - 2016
Bachelor of Mathematics
Joint Honours Computer Science & Combinatorics and Optimization

Journal Publications

Policy Optimization for Personalized Interventions in Behavioral Health
Jackie Baek, Justin J. Boutilier, Vivek F. Farias, Jónas Oddur Jónasson, Erez Yoeli
Manufacturing and Service Operations Management, 2025
  — Winner, *Pierskalla Best Paper Award 2024*

The Limits to Learning a Diffusion Model
Jackie Baek, Vivek F. Farias, Andreea Georgescu, Retsef Levi, Tianyi Peng, Deeksha Sinha, Joshua Wilde, Andrew Zheng
Management Science, 2025
  — Appeared in the *22nd ACM conference on Economics and Computation, 2021*

Fair Exploration via Axiomatic Bargaining
Jackie Baek, Vivek F. Farias
Management Science, 2024
  — Appeared in *NeurIPS 2021 (Spotlight, top 3% of submissions)*
  — Second Place, *MSOM Student Paper Competition 2022*
  — Finalist, *George Nicholson Student Paper Competition 2021*
  — Finalist, *RMP Jeff McGill Student Paper Award 2021*
  — Honorable Mention, *MIT ORC Best Student Paper Competition 2021*
  — Oral presentation, *ACM Conference on Equity & Access in Algorithms, Mechanisms, & Optimization (EAAMO), 2021*

Technical Note–Bifurcating Constraints to Improve Approximation Ratios for Network Revenue Management with Reusable Resources
Jackie Baek, Will Ma
Operations Research, 2022
Appeared in the *12th International Symposium on Algorithmic Game Theory, 2019*

Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the United States
COVID-19 Forecast Hub (298 authors)
Proceedings of the National Academy of Sciences, 2022
  — This paper resulted from contributing COVID-19 forecasts (from the paper "The Limits to Learning a Diffusion Model") to the COVID-19 Forecast Hub.

A Game-Theoretic Analysis of Reallocation Mechanisms for Airport Landing Slots
Jackie Baek, Hamsa Balakrishnan
IEEE Transactions on Intelligent Transportation Systems, 2020

When Collaborative Filtering is not Collaborative: Unfairness of PCA for Recommendations
David Liu, Jackie Baek, Tina Eliassi-Rad
ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2025

TS-UCB: Improving on Thompson Sampling With Little to No Additional Computation
Jackie Baek, Vivek F. Farias
International Conference on Artificial Intelligence and Statistics (AISTATS) 2023

Social Learning with Bounded Rationality: Negative Reviews Persist under Newest First
Jackie Baek, Atanas Dinev, Thodoris Lykouris
Major revision, *Operations Research*
  − Appeared in the *25th ACM conference on Economics and Computation, 2024*
  − Second Place, *Junior Faculty Interest Group (JFIG) Paper Competition, 2025*

The Feedback Loop of Statistical Discrimination
Jackie Baek, Ali Makhdoumi
Major revision, *Management Science*
  − Appeared in the *ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO), 2025*

Hiring under Congestion and Algorithmic Monoculture: Value of Strategic Behavior
Jackie Baek, Hamsa Bastani, Shihan Chen

Leveraging Reusability: Improved Competitive Ratio of Greedy for Reusable Resources
Jackie Baek, Shixin Wang

NYU Stern

Instructor, Operations Management (Undergraduate Core)	2024, 2025
Instructor, Advanced Topics in Operations for Societal Impact (PhD)	2025
Guest Lecture for PhD class	2022, 2024

Cornell Tech

Guest Lecture for PhD class (INFO 6455)	2025

Columbia University

Guest Lecture for PhD class (IEOR 8100)	2024

Wharton School, University of Pennsylvania

Guest Lecture for PhD class	2022

MIT Sloan

Teaching Assistant, Operations Management (MBA Sloan Fellows)	2020
Teaching Assistant, The Analytics Edge (MBA)	2018

| | Instructor (one lecture), Computing in Optimization and Statistics | 2017, 2018 |

INVITED TALKS	**2025**: BIRS Workshop on Dynamic Allocation and Matching, OM in the Wild Workshop, CMU Tepper
	2024: BIRS Workshop on Combinatorial Optimization for Online Platforms, NYU Langone HiBRID Cafe, TTIC Workshop on Data-Driven Decision Processes, NYU Theory CS Seminar
	2023: CUHK Business School, IMSI Workshop on Analytics for Improved Healthcare, NYU Digital Health Research Workgroup, UMass Amherst CS Theory
	2022: Northwestern Kellogg, Columbia IEOR, USC Marshall, Johns Hopkins Carey, NYU Stern, Stanford GSB, Duke Fuqua, Yale SOM, Michigan Ross, Chicago Booth, UToronto Rotman Young Scholar Seminar, Caltech RSRG, LinkedIn Responsible AI, Workshop on Information and Learning
	2021: UPenn Wharton, UBC Sauder, UNC Kenan-Flagler, Cornell ORIE, MIT OM Seminar, MIT Data Science Lab Seminar, Cornell Young Researchers Workshop
SERVICE	Reviewer for Journals: *Management Science, Operations Research, Manufacturing & Service Operations Management, Operations Research Letters, Mathematics of Operations Research, European Journal of Operational Research, Journal of Machine Learning Research, IEEE Control Systems Letters, IEEE Transactions on Intelligent Transportation Systems, INFORMS Journal on Computing, Health Care Management Science*
	Program Committee/Reviewer for Conferences: *EC 2023-2025, FAccT 2022-2025, EAAMO 2023-2025, WINE 2022, ALT 2023, The Web Conference 2023, AISTATS 2023, NeurIPS 2023, ICLR 2024, COLT 2024, MSOM SIG 2024-2025, RMP Student Paper Competition 2024, MSOM Student Paper Competition 2025*

	Co-chair, Pierskalla Best Paper Award	2025
	Co-organizer, TTIC Summer Workshop on *Data-Driven Decision Processes: From Theory to Practice*	2024
	Co-organizer, NYC Operations Day	2024, 2025, 2026
	Organizer, Stern OM Seminar Series	2023, 2024, 2025
	Member, Stern OM Faculty Recruiting Committee	2023, 2024
	Member, Stern OM PhD Admissions Committee	2024, 2025

HONORS AND AWARDS	Second Place, Junior Faculty Interest Group (JFIG) Paper Competition	2025
	Winner, Pierskalla Best Paper Award	2024
	Management Science Meritorious Service Award	2024
	Management Science Distinguished Service Award	2023
	Second Place, MSOM Student Paper Competition	2022
	Finalist, George Nicholson Student Paper Competition	2021
	Finalist, RMP Jeff McGill Student Paper Award	2021
	Honorable Mention, MIT ORC Best Student Paper Competition	2021

Finalist, Post-Pandemic Supply Chain and Healthcare Management Best Paper Competition   2021

Runner-up, MIT LIDS Student Conference Best Presentation   2018

NSERC Undergraduate Student Research Award   2015

Mathematics National Scholarship, University of Waterloo   2011 - 2016

WORK
EXPERIENCE

GRAIL   Palo Alto, CA
Machine Learning Engineer Intern   Summer 2018
Investigated genomic features on its ability to improve detecting early-stage cancer

Snap   Venice, CA
Software Engineer Intern   Fall 2014, Summer 2016
Improved app startup performance by implementing incremental updates

Bloomberg   London, UK
Software Engineer Intern   Fall 2015
Optimized a financial dashboard using a dependency graph to minimize redundant function calls

Dropbox   San Francisco, CA
Software Engineer Intern   Fall 2013, Spring 2014
Optimized sync by implementing delta compression using finite-state machines

LogicBlox   Atlanta, GA
Software Engineer Intern   Spring 2013

Axentra   Ottawa, Canada
Software Engineer Intern   Summer 2012