Haixiang Lan

Mudd 345, 500 W 120th St, New York, NY 10027, United States haixiang.lan@columbia.edu
+1-516-250-0454 lanhaixiang.github.io

Education

Columbia University *New York, United States*
Ph.D. in Operations Research (Specialization: Data Science) Aug. 2023 - Present
M.S. in Operations Research Aug. 2023 - Jun. 2024
Advisors: Adam Elmachtoub, Henry Lam
- GPA: 4.11/4

The Chinese University of Hong Kong, Shenzhen (CUHK(SZ)) *Shenzhen, China*
B.S. in Applied Mathematics Sept. 2019 - May 2023
- GPA: 3.94/4

University of Cambridge *Virtual*
Visiting Student Jul. 2021 - Aug. 2021

Publications and Preprints

- **Haixiang Lan**, Luofeng Liao, Adam Elmachtoub, Christian Kroer, Henry Lam, Haofeng Zhang. The Bias-Variance Tradeoff in Data-Driven Optimization: A Local Misspecification Perspective. In NeurIPS'25: Proceedings of the 39th Annual Conference on Neural Information Processing Systems, 2025.
- Adam Elmachtoub, Henry Lam, **Haixiang Lan**, Haofeng Zhang (α-β). Dissecting the Impact of Model Misspecfication of Data-Driven Optimization. In AISTATS'25: Proceedings of the 28th International Conference on Artificial Intelligence and Statistics, 2025.
- **Haixiang Lan**, Guillermo Gallego, Zizhuo Wang, Yinyu Ye. LP-based Control for Network Revenue Management under Markovian Demands. In WINE'24: Proceedings of the 20th Conference on Web and Internet Economics, 2024.
- **Haixiang Lan**, Yinjun Wang, Yinyu Ye (α-β). A Tuning-Free Primal-Dual Splitting Algorithm for Large-Scale Semidefinite Programming. INFORMS Optimization Society Conference (IOS) 2024.
- Adam Elmachtoub, Rachitesh Kumar, **Haixiang Lan** (α-β). Demand Control under Cost Uncertainty. Working Paper.

α-β: Authors are listed in alphabetical order.

Presentations

- The Bias-Variance Tradeoff in Data-Driven Optimization: A Local Misspecification Perspective. *The 39th Annual Conference on Neural Information Processing Systems (December, 2025).*
- Dissecting the Impact of Model Misspecfication of Data-Driven Optimization. *The 28th International Conference on Artificial Intelligence and Statistics (May, 2025), INFORMS Annual Meeting (October 2025).*
- LP-based Control for Network Revenue Management under Markovian Demands. *INFORMS Revenue Management and Pricing Section Conference (July 2024), INFORMS Annual Meeting (October 2024), The 20th Conference on Web and Internet Economics (December, 2024).*
- A Tuning-Free Primal-Dual Splitting Algorithm for Large-Scale Semidefinite Programming. *INFORMS Optimization Society Conference (March 2024).*

Industry Experience

Amazon New York, United States
Applied Scientist Intern Summer 2025
- Worked on the "*Long-Run Marginal Benefit Analysis for Real Estate Planning*" project.
- Developed a stochastic dynamic programming and mixed integer programming framework for the next-generation coordinated capacity and topology planning platform of Amazon fulfillment network.
- Implemented approaches to drive multi-billion dollar investment decisions shaping Amazon's global strategy.

Honours and Awards

- Cornelius A. Boyle Fellowship (Columbia IEOR Department Fellowship). 2023
- Presidential Award in CUHK(SZ) (highest award for undergraduates) 2023
- Academic Performance Scholarship (Class A) 2019-2022
- Outstanding Undergraduate Student Teaching Fellow 2023
- Half Tuition and Bowen Scholarship 2019-2023
- Dean's list 2019-2023
- Contemporary Undergraduate Mathematical Contest in Modeling: National Second Prize 2021
- Undergraduate Research Award 2021

Teaching Experience

At **Columbia University:** Teaching Assistant

- IEOR 4106, Stochastic Models Spring 2024
- IEOR 3106, Stochastic Systems and Applications Fall 2024
- IEOR 4650, Business Analytics Spring 2025, Fall 2025

At **CUHK(SZ):** Undergraduate Student Teaching Fellow

- CHM 1001, General Chemistry Fall 2020
- MAT 1012, Honours Calculus II Spring 2021
- MAT 2006, Elementary Real Analysis I Fall 2021
- MAT 4001, Numerical Analysis Fall 2022, Spring 2023
- DDA 3005, Numerical Methods Fall 2022
- MAT 3007, Optimization I Spring 2023

Skills

Languages: English (Fluent, TOEFL 107, GRE 334), Mandarin (Native)

Computer Languages: Python, R, Matlab, Julia, Gurobi, Xpress, Mosel, COPT, LaTeX