Yinbin Han

yh6006@nyu.edu | Brooklyn, NY

EDUCATION

New York University — Aug 2024 – Present
Ph.D. Student, Finance and Risk Engineering
Advisors: Renyuan Xu, Meisam Razaviyayn

University of Southern California — Aug 2021 – Aug 2024
Ph.D. Student, Industrial and Systems Engineering

Chinese University of Hong Kong, Shenzhen — Sep 2017 – Jun 2021
B.S. Mathematics

University of California, Berkeley — Jan 2020 – May 2020
Exchange Student

INDUSTRIAL EXPERIENCE

Meta — May 2024 – Aug 2024
Research Scientist Intern

RESEARCH INTERESTS

- Applied Probability and Stochastic Modeling
- Nonconvex Optimization and Stochastic Optimization
- Data-driven Decision Making and Reinforcement Learning
- Stochastic Control and Mathematical Finance
- Diffusion Models and Schrödinger Bridge

JOURNAL PUBLICATIONS

1. Y. Han and Z. Wang. "Optimal Switching Policy for Batch Servers." *Operations Research Letters*, 2023.

CONFERENCE PUBLICATIONS

1. Y. Han, M. Razaviyayn, and R. Xu. "Neural network-based score estimation in diffusion models: Optimization and generalization." *International Conference on Learning Representations (ICLR)*, 2024.
    - Short version accepted by *NeurIPS workshop on Diffusion Models*, 2023.
    - Long version to be submitted to Mathematics of Operations Research.

WORKING PAPERS

1. Y. Han, M. Razaviyayn, and R. Xu. "Stochastic Control for Fine-tuning Diffusion Models: Optimality, Regularity, and Convergence." Preprint, 2024.
2. Y. Han, M. Razaviyayn, and R. Xu. "Policy Gradient Converges to the Globally Optimal Policy for Nearly Linear-Quadratic Regulators." Minor revision, *SIAM Journal on Control and Optimization*, 2024.
    - Short version accepted by *NeurIPS Workshop Optimization for Machine Learning*, 2022.

INVITED TALKS

- INFORMS Annual Meeting, Seattle — Oct 2024
- Yale Sampling Conference, New Haven — Oct 2024
- International Conference on Learning Representations, Vienna — May 2024
- INFORMS Optimization Society Conference, Houston — Mar 2024
- NeurIPS 2023 Workshop on Diffusion Models, New Orleans — Dec 2023
- INFORMS Annual Meeting, Phoenix — Oct 2023

- NeurIPS 2022 Workshop OPT2022, New Orleans — Dec 2022
- INFORMS Annual Meeting, Indianapolis — Nov 2022

ORGANIZERS

- Co-organizer of the NYC Brown Bag Reading Group on Foundations of Generative AI — Sep 2024
- Session co-chair at INFORMS Optimization Society Conference — Mar 2024

REVIEWERS

- Journals: European Journal of Operational Research.
- Conferences: International Conference on Learning Representations (ICLR), International Conference on Machine Learning (ICML), Neural Information Processing Systems (NeurIPS), International Conference on Artificial Intelligence and Statistics (AISTATS), Conference on Uncertainty in Artificial Intelligence (UAI).

PROFESSIONAL MEMBERSHIP

- Institute for Operations Research and the Management Sciences (INFORMS)
- Applied Probability Society (APS)

TEACHING EXPERIENCE

NYU, Teaching Assistant

- FRE-GY 9073: Stochastic Systems and Modern ML Theory — Fall 2024

USC, Teaching Assistant

- ISE 530: Optimization Methods for Analytics — Fall 2023, Spring 2024

CUHKSZ, Undergraduate Student Teaching Fellow

- MAT2002: Ordinary Differential Equations — Spring 2021
- BIO2001: General Biology — Summer 2019

AWARDS & HONORS

- National Scholarship of China — 2020
- Academic Performance Scholarship, CUHKSZ — 2018, 2019, 2020
- Dean's List, CUHKSZ — 2018, 2019, 2020

TECHNICAL SKILLS

Programming Languages:

- Proficient in Python, Numpy, Pandas, PyTorch, R, and MATLAB
- Familiar with Java, C/C++, MySQL
- Experience with Hadoop, Spark, and CUDA