

Yilie Huang

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POSITIONS **Columbia University** Jan 2025 - Present
Fu Foundation School of Engineering and Applied Science USA
Postdoctoral Research Scientist in Industrial Engineering and Operations Research
Supervisor: Xunyu Zhou

EDUCATION **Columbia University** Sept 2019 - Dec 2024
Fu Foundation School of Engineering and Applied Science USA
Doctor of Philosophy in Industrial Engineering and Operations Research
Advisor: Xunyu Zhou

Columbia University Sept 2017 - Dec 2018
Fu Foundation School of Engineering and Applied Science USA
Master of Science in Operations Research
Advisor: Xunyu Zhou

Zhejiang University Sept 2013-Jul 2017
Chu KoChen Honors College China
Bachelor of Science in Mathematics and Applied Mathematics (Honors Program)

The University of Hong Kong Sept 2015-May 2016
Faculty of Science Hong Kong
Exchange student

CFA Institute Since Feb 2022
CFA® (Chartered Financial Analyst) charterholder

RESEARCH INTERESTS

- Reinforcement Learning and Machine Learning
- Diffusion Models for Generative AI
- Mathematical Finance, Financial Engineering and FinTech
- Stochastic Control and Applied Probability

RESEARCH PAPERS **Publications**
Huang, Y., Jia, Y., & Zhou, X. (2025). Sublinear Regret for a Class of Continuous-Time Linear-Quadratic Reinforcement Learning Problems. *SIAM Journal on Control and Optimization*, forthcoming.

Huang, Y., Jia, Y., & Zhou, X. (2022). Achieving Mean-Variance Efficiency by Continuous-Time Reinforcement Learning. In Proceedings of the Third ACM International Conference on AI in Finance, 377-385.

Preprints

Huang, Y., Jia, Y., & Zhou, X. (2024). Mean-Variance Portfolio Selection by Continuous-Time Reinforcement Learning: Algorithms, Regret Analysis, and Empirical Study. Submitted.

In Progress

Huang, Y. & Zhou, X. (n.d.). Data-Driven Exploration in Continuous-Time Reinforcement Learning for a Class of Linear-Quadratic Control. In progress.

PRESENTATIONS

Conference Presentations

World Online Seminar on ML in Finance	Feb 2025
Columbia IEOR Colloquium	Nov 2024
2024 INFORMS Annual Meeting	Oct 2024
2024 INFORMS Conference on Financial Engineering and FinTech	Aug 2024
2022 INFORMS Annual Meeting	Oct 2022
11th World Congress of Bachelier Finance Society	June 2022

Posters

NYC Operations Day	Mar 2025
Columbia DSI Financial and Business Analytics Poster Session	Mar 2025
Columbia DSI Financial and Business Analytics Poster Session	Nov 2022

ACADEMIC SERVICE

Referee

Quantitative Finance
Journal of the Operational Research Society
Digital Finance

Session Chair

2024 INFORMS Annual Meeting	Oct 2024
11th World Congress of Bachelier Finance Society	June 2022

INDUSTRY EXPERIENCE

Tower Research Capital , Mako/Ace Trading Team	Feb 2023-May 2023
Quant Trader Intern	New York, NY, USA
<ul style="list-style-type: none"> Built 20,000+ HFT alphas; strategy Sharpe ratio exceeded 5 Created selection algorithm and C++ tools; integrated into pipeline 	

Millennium Management , Equity Derivatives Quant Team	Jun 2022-Aug 2022
Quant Researcher Intern	New York, NY, USA
<ul style="list-style-type: none"> Solved 2-D PDEs for Asian options with ADI methods Production-grade C++ code with advanced features 	

LevelHead Capital, LLC , Quantitative Value Investing	Jan 2018-Jul 2018
Quant Trader Intern	New York, NY, USA
<ul style="list-style-type: none"> • Stock prediction with DL • Value investing via ML 	

**TEACHING
EXPERIENCE**

Columbia University	
Teaching Assistant	New York, NY, USA
<ul style="list-style-type: none"> • IEOR E4602, Quantitative Risk Management • IEOR 4630, Asset Allocation • IEORE 4732, Computational Methods in Finance • IEORE 4701-001, Stochastic Models for Financial Engineering • IEORE 4701-002, Stochastic Models for Financial Engineering • IEOR 4524, Analytics in Practice: MSBA Capstone • IEOR 4100, Probability, Statistics and Simulation • IEOR 4101, Probability, Statistics and Simulation • IEOR 4707, Financial Engineering: Continuous Time Models • IEOR 4735 Structured & Hybrid Products 	<p>Fall 2023</p> <p>Spring 2023</p> <p>Spring 2022</p> <p>Fall 2021</p> <p>Fall 2021</p> <p>Spring 2021</p> <p>Fall 2020</p> <p>Fall 2020</p> <p>Spring 2020</p> <p>Fall 2018</p>