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, 63(5), 3452-3474.

Huang, Y. (2025). Continuous-Time Reinforcement Learning for Asset–Liability Management. Forthcoming in Proceedings of the 6th ACM International Conference on AI in Finance.

Huang, Y., Jia, Y., & Zhou, X. (2022). Achieving Mean–Variance Efficiency by Continuous-Time Reinforcement Learning. In Proceedings of the 3rd ACM International Conference on AI in Finance, 377-385.

Preprints

Huang, Y. & Zhou, X. (2025). Data-Driven Exploration for a Class of Continuous-Time Indefinite Linear–Quadratic Reinforcement Learning Problems. Submitted.

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

PRESENTATIONS

Invited Talks

Workshop on Stochastic Control, Financial Technology, and Machine Learning (Hong Kong)	Dec 2025
Control and Optimization Seminar (UConn)	Nov 2025
INFORMS Annual Meeting (Atlanta)	Oct 2025
Mathematical Finance and Stochastic Analysis Seminar (HU/TU Berlin)	Oct 2025
Berkeley–Columbia Meeting in Engineering and Statistics (UC Berkeley)	Oct 2025
SIAM Conference on Financial Mathematics and Engineering (Miami)	Jul 2025
World Online Seminar on Machine Learning in Finance (Online)	Feb 2025
Columbia IEOR Colloquium (Columbia U)	Nov 2024
INFORMS Annual Meeting (Seattle)	Oct 2024
INFORMS Conference on Financial Engineering and FinTech (Hong Kong)	Aug 2024
INFORMS Annual Meeting (Indianapolis)	Oct 2022
11th World Congress of Bachelier Finance Society (Online)	Jun 2022

Posters

NYC Operations Day (New York)	Mar 2025
Columbia AI Summit (Columbia U)	Mar 2025
DSI Financial and Business Analytics Poster Session (Columbia U)	Feb 2025
DSI Financial and Business Analytics Poster Session (Columbia U)	Nov 2022

ACADEMIC SERVICE

Referee

Journal of the Operational Research Society
Quantitative Finance
Mathematics and Financial Economics
Digital Finance
ACM International Conference on AI in Finance
NeurIPS Workshop on Generative AI in 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

- 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

- 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

- Stock prediction with DL
- Value investing via ML

TEACHING EXPERIENCE

Columbia University
Teaching Assistant — New York, NY, USA

- IEOR E4602, Quantitative Risk Management — Fall 2023
- IEOR 4630, Asset Allocation — Spring 2023
- IEORE 4732, Computational Methods in Finance — Spring 2022
- IEORE 4701-001, Stochastic Models for Financial Engineering — Fall 2021
- IEORE 4701-002, Stochastic Models for Financial Engineering — Fall 2021
- IEOR 4524, Analytics in Practice: MSBA Capstone — Spring 2021
- IEOR 4100, Probability, Statistics and Simulation — Fall 2020
- IEOR 4101, Probability, Statistics and Simulation — Fall 2020
- IEOR 4707, Financial Engineering: Continuous Time Models — Spring 2020
- IEOR 4735 Structured & Hybrid Products — Fall 2018