# Yijie Huang

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## EDUCATION

**School of Mathematical Sciences, University of Science and Technology of China**
Hefei, China
*Ph.D. in Probability Theory and Mathematical Statistics* 09/2019 - 06/2025

- Advisor: Prof. Lijun Bo
- Research area: Mathematical Finance, Stochastic Control and Optimization

**School of Mathematical Sciences, University of Science and Technology of China**
Hefei, China
*B.S. in Mathematics and Applied Mathematics* 09/2015- 06/2019

## PROFESSIONAL EXPERIENCE

- Research Assistant
  Supervisor: Xiang Yu 11/2022 - 09/2025
  Department of Applied Mathematics
  **The Hong Kong Polytechnic University**, Hong Kong, China.
- Postdoctoral Fellow
  Supervisor: Xiang Yu 10/2025 - present
  Department of Applied Mathematics
  **The Hong Kong Polytechnic University**, Hong Kong, China.

## PUBLICATIONS

1. Lijun Bo, Yijie Huang. Dynamic pricing with surging demand. **CSIAM Transactions on Applied Mathematics**, 5(1): 142-181, 2024.
2. Lijun Bo, Yijie Huang, Xiang Yu. A decomposition-homogenization method for Robin boundary problems on the nonnegative orthant. **Electronic Journal of Probability**, 29: 1-25, 2024.
3. Lijun Bo, Yijie Huang, Xiang Yu. Stochastic control problems with state-reflections arising from relaxed benchmark tracking. **Mathematics of Operations Research**, 50(4): 2526-2551. 2025.
4. Lijun Bo, Yijie Huang, Xiang Yu. On optimal tracking portfolio in incomplete markets: The reinforcement learning approach. **SIAM Journal on Control and Optimization**, 63(1): 321-348, 2025.
5. Lijun Bo, Yijie Huang. Optimal inventory control with state dependent jumps. **Advances in Applied Probability**, 57(4): 1360-1391, 2025.
6. Lijun Bo, Yijie Huang, Xiang Yu. An extended Merton problem with relaxed benchmark tracking. **Mathematical Finance**, online first, DOI:10.1111/mafi.70015, 2025.
7. Lijun Bo, Yijie Huang, Kaixin Yan, Xiang Yu. Optimal consumption under relaxed benchmark tracking and consumption drawdown constraint. **SIAM Journal on Financial Mathematics** , forthcoming, 2026.

## PREPRINTS (UNDER REVIEW)

1. Lijun Bo, Yijie Huang, Xiang Yu, Tingting Zhang (2024) Continuous-time q-learning for jump-diffusion models under Tsallis entropy.
   Major revision with **Mathematics and Financial Economics** (arXiv:2407.03888)
2. Yijie Huang, Kaixin Yan, Qinyi Zhang (2025) Optimal consumption under adjustment costs with respect to multiple reference levels.
   Major revision with **Mathematics and Financial Economics** (arXiv:2503.18443)
3. Lijun Bo, Yijie Huang, Xiang Yu (2025) Mean field game of optimal tracking portfolio.
   Reject and Resubmit with **IEEE Transactions on Automatic Control** (arXiv:2505.01858)
4. Yijie Huang, Mengge Li, Xiang Yu and Zhou Zhou (2025) Continuous-time reinforcement learning for optimal switching over multiple regimes.
   Submitted. (arXiv:2512.04697)

## Working Papers

1. Lijun Bo, Yijie Huang and Tingting Zhang. Optimal consumption, portfolio and retirement under relaxed benchmark tracking.

## Research Talks and Posters

- 10th Annual meeting of Financial Engineering and Financial Risk Management Branch, Chengdu, 07/2021
- Recent Advances on Quantitative Finance, The Hong Kong Polytechnic University, 08/2023
- Workshop on Mean Field Models, Control Games, and Related Topics, Tianyuan Mathematical Center in Northwest China, 11/2024
- The 2nd ETH-HK-Imperial Joint Workshop on Quantitative Finance, Hong Kong, 04/2025
- Workshop on Stochastic Control, Financial Technology, and Machine Learning, The Hong Kong Polytechnic University, 12/2025 (Poster)

## Awards and Honors

- First-class Academic Scholarship for Ph.D. Students, USTC 2020-2023
- First-class Academic Scholarship for Master Students, USTC 2019

## Skills

**Languages**: Chinese, English.

**Programming**: `Python`, `MATLAB`, `Mathematica`.