

# KEYU ZHANG

## CONTACT INFORMATION

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Address: Department of Mathematical Sciences, Tsinghua University, Beijing, China.  
Telephone: (+86)188-6494-6836; (+852) 53090564  
E-mail: [zhangkeyu2000@outlook.com](mailto:zhangkeyu2000@outlook.com)  
Personal Homepage: <https://keyu-zhang523.github.io>

## EDUCATION

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**Tsinghua University** Sep 2021 ~ June 2026  
Ph.D. in Statistics  
Advisor: Prof. Zongxia Liang,  
Research area: Stochastic Control and Optimization, Mean Field Game

**Shandong University** Sep 2017 ~ June 2021  
B.S. in Mathematics and Applied Mathematics

## PROFESSIONAL EXPERIENCE

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**The Hong Kong Polytechnic University** July 2024 ~ July 2025  
Research Assistant  
Supervisor: Xiang Yu

**The Hong Kong Polytechnic University** July 2026 ~ present  
Postdoctoral Fellow  
Supervisor: Xiang Yu

## PUBLICATIONS AND WORKING PAPERS

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All authors are sorted in alphabetical order:

- Zongxia Liang and **Keyu Zhang**. Time-inconsistent mean field and n-agent games under relative performance criteria. *SIAM Journal on Financial Mathematics*, 15(4): 1047-1082, 2024.
- Zongxia Liang and **Keyu Zhang**. A mean field game approach to relative investment-consumption games with habit formation. *Mathematics and Financial Economics*, 18: 577-622, 2024.
- Zongxia Liang, Xiang Yu and **Keyu Zhang**. On time-inconsistent extended mean-field control problems with common noise. *Mathematics of Operations Research*, forthcoming, 2026. (arXiv: 2409.07219)
- Xiang Yu, Jiacheng Zhang, **Keyu Zhang** and Zhou Zhou. Major-Minor mean field game of stopping: an entropy regularization approach. *SIAM Journal on Control and Optimization*, forthcoming, 2026. (arXiv: 2501.08770)
- Zongxia Liang, Jianming Xia, and **Keyu Zhang**. Equilibrium stochastic control with implicitly defined objective functions. Major revision with *SCIENTIA SINICA Mathematica*. (arXiv: 2312.15173)
- Zongxia Liang, Xiang Yu and **Keyu Zhang**. Mean Field Game with Reflected Jump Diffusion Dynamics: A Linear Programming Approach. Submitted. (arXiv: 2508.20388)
- Yu-Jui Huang, Xiang Yu and **Keyu Zhang**. Policy Iteration Achieves Regularized Equilibrium under Time Inconsistency. Submitted. (arXiv: 2603.06145)

- Erhan Bayraktar, Zhenhua Wang, Xiang Yu, and **Keyu Zhang**. Equilibrium for Time-inconsistent Mean Field Games: A Systematic Analysis by Entropy Regularization. Submitted. (arXiv: 2605.14363)

## TEACHING EXPERIENCES

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- **Teaching Assistant**, Tsinghua University 2021 – 2024
- *Courses*: Calculus A1 (Fall 2021, 2022, 2023) and Calculus A2 (Spring 2022, 2023, 2024).

## SKILLS

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- **Languages**: Chinese, English.
- **Programming**: Python.

## AWARDS

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- **Outstanding Doctoral Thesis** (top 10%). Tsinghua University, 2026.
- **Outstanding Graduates** (top 4%). Tsinghua University, 2026.
- **THU Comprehensive Excellence Scholarship First Prize**. Tsinghua University, 2025.
- **THU Comprehensive Excellence Scholarship First Prize**. Tsinghua University, 2024.
- **THU Comprehensive Excellence Scholarship First Prize**. Tsinghua University, 2023.
- **THU Comprehensive Excellence Scholarship Second Prize**. Tsinghua University, 2022.
- **THU Excellent TA Awards**. Tsinghua University, 2021&2022.