

Yuheng Zheng

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Education

Princeton University

Sep 2021–Current

- PhD Student in **Operations Research and Financial Engineering (ORFE)**
- **Advisors:** Prof. Yacine Aït-Sahalia and Prof. Jianqing Fan
- **Research Topics:** Statistics, Financial Econometrics, Machine Learning in Finance, Financial Math.
- **Main Courses:** Statistical Foundations of Data Science, Statistical Theory and Methods, Stochastic Optimal Control, Optimization, Probability Theory, Stochastic Calculus, Statistical Machine Learning.

Peking University, School of Mathematical Sciences

Sep 2017–Jun 2021

- BA in **Math and Applied Math**, Double Major in **Economics**; GPA rank: **1/45** in **Statistics** track.
- **Main Courses:** Analysis, Linear Algebra, Monte-Carlo Simulation, Asymptotic Statistics, Statistical Model and Computing Methods; Machine Learning, Data Structure and Algorithm; Graduate-level Econometrics.

Relevant Experience

Quantitative Research Intern, Two Sigma Investments, NYC

Jun 2024–Aug 2024

Teaching Assistant, Princeton University

Sep 2022–Current

- ORF 505: **Statistical Analysis of Financial Data** (lecturer: René Carmona)
- ORF 445: **High-Frequency Markets: Models and Data Analysis** (lecturer: Robert Almgren)

Honors and Awards

China Economics Research Scholarship, Boeing Company Scholarship.

1st Prize in Beijing Undergrad Math Modeling Contest, 1st Prize in National High School Math Competition, Chinese Mathematical Olympiad (CMO) Qualifier, Gold Medal in China South-Eastern Mathematics Olympiad (CSMO).

Research Projects

When can weak latent factors be statistically inferred?

- Paper: <https://arxiv.org/abs/2407.03616> (submit to [JASA](#)). [\[codes\]](#)
- Found remarkable alignments between our statistical test results and economic cycles in the empirical studies using the data of S&P 500 constituents and some observable factors, e.g., the Fama-French factors.

Reinforcement Learning (RL) in High-Frequency Market Making

- Paper: <https://arxiv.org/abs/2407.21025> (submit to [ICAIF'24](#)) [\[codes\]](#)

Inference in Continuous-Time Diffusion Model with Latent Variables (preprint is available upon request)

- Keywords: High-Frequency data, Stochastic volatility, Hidden Markov model, Kalman-Bucy filter, Nonlinear and particle filter methods, Kushner stochastic partial differential equations (SPDE). [\[codes\]](#)

Skills and Interests

Programming: Python, R, LyX, Latex, C/C++, Matlab, Mathematica.

Interests: Basketball, Tractor (Shuang Sheng), Poker, Board Games, Accordion (level 10), Piano (level 8), Music.