

# YICHEN JI

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## EDUCATION

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### University of Toronto

Sep 2024 - Present

Ph.D. in Statistics

Advisors: Radu Craiu and Monica Alexander

Awards: Doctoral Recruitment Award

### University of Chicago

Sep 2022 - Jun 2024

M.S. in Statistics

GPA: 3.82/4.0

Thesis Advisors: Dacheng Xiu and Per Mykland

Awards: 25% Merit-based Tuition Scholarship

### University of Toronto

Sep 2018 - Jun 2022

B.S. (Hons) in Statistics & Applied Mathematics

GPA: 3.87/4.0

Awards: Summer Undergraduate Research Award (SURA), Dean's List (all semesters)

## RESEARCH EXPERIENCE

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### Booth School of Business, University of Chicago

Chicago, IL

*Supervised by Prof. Dacheng Xiu*

Project: Continuous-Time Fama-MacBeth Regressions

Sep 2023 - May 2024

- Collected and pre-processed intraday futures data across five asset classes over twenty years.
- Replicated five key risk factors from the literature and constructed their intraday factor portfolios according to the proposed methodology, which provided new empirical evidence beyond the U.S. equity market to futures markets that distinguishes the significance of continuous and jump risk premia.

Thesis Project: Large-Scale Realized Volatility Prediction with Machine Learning

Oct 2022 - May 2024

- Systematized an end-to-end ML pipeline for forecasting realized volatility (RV) in U.S. stocks using one-minute intraday data over ten thousand stocks spanning more than two decades.
- Implemented and evaluated the predictive accuracy of fifteen econometric and machine learning models by out-of-sample  $R^2$  and  $QLIKE$  objectives.

### Rotman School of Management, University of Toronto

Toronto, Canada

*Supervised by Prof. Ningyuan Chen*

Project: Learning Behavioral Multi-armed Bandit Policies

Jun 2023 - Sep 2023

- Developed a numerical optimization algorithm for maximum likelihood estimation in Softmax models.
- Proved estimator's consistency and asymptotic normality and applied methodology to lab experiment data.

### Department of Statistics, University of Chicago

Chicago, IL

*Supervised by Prof. Per Mykland*

Project: High-Frequency Jump Detection

Mar 2023 - Sep 2023

- Conducted an extensive literature review on jump tests, jump regression, pre-averaging, and Lasso variants.
- Performed Monte Carlo comparison between ten price jump tests by evaluating their size and power under various sampling frequencies, volatility persistence, and microstructure noise conditions; revealed significant disparities in jump number and timing identification in identical datasets.

**Department of Statistical Sciences, University of Toronto**

Toronto, Canada

*Supervised by Prof. Scott Schwartz*

Project: Bayesian Analysis of Normalizing Flows via Importance Sampling

May 2022 - Jul 2022

- Proposed a Bayesian learning model employing normalizing flows neural networks based on SWA-Gaussian (SWAG) and likelihood re-weighting for uncertainty quantification.
- Gave a departmental talk on the methodology and experiment results on regression and 2D density estimation.

**TEACHING EXPERIENCE**

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**Teaching Assistant, University of Toronto**

Jan 2025 - Apr 2025

*STA414/2104: Statistical Methods for Machine Learning II***Teaching Assistant, University of Toronto**

Sep 2024 - Dec 2024

*STA237: Probability, Statistics and Data Analysis I***Teaching Assistant, University of Chicago**

Apr 2024 - Jun 2024

*Applications of Hierarchical Linear Models in Longitudinal and Multilevel Research (Graduate)***Grader, University of Chicago**

Apr 2024 - Jun 2024

*Multivariate Statistical Analysis (Graduate)***Teaching Assistant, University of Chicago Booth School of Business**

Jan 2024 - Mar 2024

*Big Data (Undergraduate)***Teaching Assistant, University of Chicago**

Jan 2024 - Mar 2024

*Introduction to Statistical Methods in Economics (Undergraduate)***Grader, University of Chicago**

Sep 2023 - Dec 2023

*Statistical Theory and Methods 1a (Graduate)***Grader, University of Chicago**

Apr 2023 - Jun 2023

*Statistical Models and Methods 1 (Undergraduate)***Teaching Assistant, University of Toronto**

Sep 2021 - Apr 2022

*Calculus with Proofs (Undergraduate)***Student Mentor, University of Toronto Innis College**

Sep 2019 - Apr 2021

**DEPARTMENTAL SERVICE**

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Member of Local Organizing Committee, The Fast and Curious II: MCMC in Action Conference, Department of Statistical Sciences, University of Toronto 2025

Dean's Student Advisory Committee, Physical Science Division, University of Chicago 2023

Advisory Chair Search Committee, Department of Statistical Sciences, University of Toronto 2022

UTQAP Cyclical Program Review, Department of Mathematics, University of Toronto 2022

**INTERNSHIP EXPERIENCE**

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**China International Capital Corporation (CICC)**

Jul 2022 - Sep 2022

*Quantitative Research Intern*

Shanghai, China

**China Alliance of Social Value Investment (CASVI)**

Jun 2021 - Aug 2021

*ESG Research Intern*

Shenzhen, China

**COMPUTER SKILLS & OTHERS**

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**Programming**

Python, R, MATLAB, SQL, Stan, Bash

**Python Packages**

PyTorch, Keras, Sklearn, NumPy, SciPy, Pandas

**Interests**

Photography (UofT Varsity Videographer), Basketball (UChicago CSSA Team Player)