Isaiah T. Katz

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PhD Candidate, University of California, Santa Barbara
Department of Statistics and Applied Probability

Education

University of California, Santa Barbara — Santa Barbara, CA

Ph.D., Statistics and Applied Probability — Expected January 2027
Thesis: Multivariate Dependency Models for Financial Time Series
Advisor: Gareth W. Peters

M.A., Mathematical Statistics — September 2021 – June 2023
GPA: 3.96/4.00

Northwestern University — Evanston, IL

B.A. Mathematics, Minor in Statistics — September 2016 – June 2020
GPA: 3.81/4.00; *cum laude*

Research Interests

Time series methodology · Multivariate analysis · Statistical signal processing · Feature extraction methods · Machine learning applications in econometrics and computational finance · Applied probability

Publications and Working Papers

Katz, I. T., Campi, M., Peters, G.W. *Factor-Augmented Graphical Models for Improved Volatility Forecasts.* [In Preparation]

Katz, I. T., Campi, M., Peters, G.W. *CrossCurveR: An R Package for Stress Testing Multiple Yield Curves.* [In Preparation]

Katz, I. T., Peters, G. W., Campi, M. *Cross-Curve Interest Rate Stress Testing With Endogenous Curve Covariates.* [In Review] [SSRN Preprint]

van der Wee, E. B., Blackwell, B. C., Usabiaga, F. B., Sokolov, A., **Katz, I. T.**, Delmotte, B., Driscoll, M. M. *A simple catch: Fluctuations enable hydrodynamic trapping of microrollers by obstacles.* **Science Advances**, Vol. 9, Issue 10, 2023.

Talks and Presentations

Stress Testing Multiple Yield Curves (Poster Presentation) — June 2025
Laboratorie de Mathematiques Blaise Pascal DATA Workshop — Clermont Ferrand, France

Modeling Multi-Yield Curve Dependency Structures (Talk) — March 2025
UCSB PSTAT Graduate Research Showcase — Santa Barbara, CA

Research Visits and Events

Visiting PhD Student, Heriot Watt University, Edinburgh, Scotland Postponed, invited July 2025

- Hosted by Prof. George Tzougas

- Research topic: variational autoencoders for time series feature extraction

53rd St. Flour Probability Summer School, St. Flour, France June 2025

- Selected participant (competitive admission process)
- Mini-Courses: Euclidean Quantum Field Theory, Modern Markov Chains, Deep Learning

Visiting PhD Student, Université Clermont Auverge, Clermont-Ferrand, France June 2025

- Hosted by Prof. Nourrdine Azzaoui
- Research topic: sequential change-point detection

Teaching

Teaching Associate (Instructor of Record, UCSB)

- PSTAT 10: Data Science Principles (Summer 2023)

Teaching Assistant (all UCSB):

- PSTAT 220AB: Advanced Statistical Methods (Graduate, Fall 2023, Winter 2024)
- PSTAT 194CS: Special Topics in Computational Statistics (Undergraduate, Spring 2024)
- PSTAT 174 / 274: Time Series (Cross-listed Undergraduate / Graduate, Fall 2024, Winter 2025, Spring 2025)
- PSTAT 160B: Applied Stochastic Processes (Undergraduate, Summer 2022)
- PSTAT 131/231: Machine Learning (Cross-listed Undergraduate / Graduate, Fall 2025)
- PSTAT 120ABC: Probability and Mathematical Statistics (Undergraduate, Spring 2022, Fall 2022, Winter 2023, Summer 2024, Summer 2025)
- PSTAT 10: Data Science Principles (Undergraduate, Summer 2022)
- PSTAT 8: Transition to Data Science, Probability and Statistics (Undergraduate, Spring 2023)
- PSTAT 5A / 5LS: Introduction to Statistics (Undergraduate, Fall 2021, Winter 2022)

Other Teaching

- PHYSICS 135ABC Peer Tutor, Northwestern Academic Support and Learning Advancement (2018 - 2022)

Professional Experience

WH Trading, LLC Chicago, IL

Junior Trader (futures market making) August 2020 – August 2021
Trading Intern (rotational program, various derivatives teams) June 2019 – September 2019

Skills

Programming: R (advanced), Python (proficient), SQL (proficient), C++ (basic), Rust (basic)
Software: Bloomberg Terminal (proficient), Excel (proficient, basic VBA)

References

Available upon request