# Isaiah 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