

# Alexander Bernstein

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 alexbstl

## Education

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### University of California, Santa Barbara

Ph.D. in Statistics

Santa Barbara, CA

*Dec. 2024 (est.)*

### Washington University in St. Louis

M.Sc. in Systems Science and Applied Mathematics

St. Louis, MO

*Dec. 2016*

B.A. in Mathematics and Economics, (Cum Laude)

*May 2014*

## Project Experience

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### Presentations

Analytical Solutions To The Constrained Markowitz Problem Via Fixed Point Theory

- INFORMS Annual Meeting

*Oct. 2023*

Explicit Solutions for Position Constrained Minimum Variance Portfolios

- SIAM Conference on Applied and Computational Discrete Algorithms, **Online Poster** *July 2021*

- CDAR Risk Seminar, UC Berkeley

*Mar. 2020*

### Publications

- Explicit Solutions for Position Constrained Minimum Variance Portfolios

*In Preparation*

- Dynamic Clearly and Contagion Financial Networks

*In Review*

<https://doi.org/10.48550/arXiv.1801.02091>

## Relevant Experience

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### University of California, Santa Barbara

*Teaching Assistant, Various Classes*

Santa Barbara, CA

*Sept. 2017-Present*

- Utilized expertise in areas such as Statistical Theory, Stochastic Processes, Regression Analysis, Financial Mathematics, and Risk Theory to teach students

- Developed and graded student coursework

*Graduate Student Mentor*

*Dec. 2019-Present*

- Guided undergraduate students on projects involving Financial Mathematics and Optimization

- Directed students in preparation of poster presentation and formal report about results of their research

### Epic Systems

*Technical Services Engineer*

Madison, WI

*Sept. 2014 - Sept. 2015*

- Supported customers in the usage of their Electronic Medical Records system

- Diagnosed customer requests and tailored software to fit their needs

- Developed and implemented improvements to the Epic Codebase

### Prozess Technologie

*Intern*

St. Louis, MO

*May 2013- May 2014*

- Created a computational simulations to explore effectiveness of laboratory equipment

- Tested, calibrated and validated laboratory equipment used in pharmaceutical manufacturing

## Skills

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### Technical Knowledge

- Expertise in Convex Optimization and Statistical Analysis
- Strong Knowledge of Mathematical Statistics, Probability, Stochastic Analysis, Machine Learning, Time Series Analysis, Data Science, Options Pricing, and Risk Analysis

### Programming Languages and Software

- Strong Knowledge: R, Matlab, Python, NumPy, SciPy, Scikit-Learn, Pandas,  $\text{\LaTeX}$ , Markdown and Linux
- Working Knowledge: PyTorch, C, Java, JavaScript, NodeJS, SQL, MongoDB, AWS, Git, Inter-systems Caché