

Alexander Bernstein

Email: alexbstl@gmail.com, Cell: 314-283-0026

 alexbstl

Education

University of California, Santa Barbara

Santa Barbara, CA

Ph.D. in Statistics

Sept. 2025

Dissertation: "Long-Only Minimum Variance Portfolios Composition for Factor Models"

Washington University in St. Louis

St. Louis, MO

M.Sc. in Systems Science and Applied Mathematics

Dec. 2016

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

May 2014

Research Interests

My research interests include **convex and portfolio optimization**, factor models and feature construction, asset pricing (options and bonds), multivariate statistics, time-series analysis, probability and stochastic analysis, and applications of machine learning in financial mathematics.

Publications and Working Papers

Talks and Presentations

Analytical Solutions To The Constrained Markowitz Problem Via Fixed Point Theory

INFORMS Annual Meeting, Phoenix, AZ

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, Berkeley, CA

March 2020

Teaching

University of California, Santa Barbara

Santa Barbara, CA

Teaching Assistant

Sept. 2017 – March 2025

- PSTAT 173: Risk Theory (Undergraduate)
- PSTAT 170: Introduction to Financial Mathematics (Undergraduate)
- PSTAT 160AB: Applied Stochastic Processes (Undergraduate)
- PSTAT 174/274: Time Series Analysis (Cross-listed Undergraduate / Graduate)
- PSTAT 126: Regression Analysis (Undergraduate)
- PSTAT 120AB: Probability and Mathematical Statistics (Undergraduate)
- PSTAT 5A/109: Introduction to Statistics (Undergraduate)

Graduate Student Mentor

Dec. 2019 – June 2024

- Supervised undergraduate projects in Financial Mathematics and Optimization.
- Guided students in preparing posters and reports.

Professional Experience

Epic Systems

Madison, WI

Technical Services Engineer

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

St. Louis, MO

Intern

May 2013 – May 2014

- Created computational simulations to explore effectiveness of laboratory equipment
- Tested, calibrated, and validated laboratory equipment used in pharmaceutical manufacturing

Fellowships and Awards

Regents Fellowship, *UC Santa Barbara*

2017-2018

John M. Olin Prize for Excellence in Economics, *Washington University in St. Louis*

2014

Skills

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, L^AT_EX, Markdown, Linux
- Working Knowledge: PyTorch, C, Java, JavaScript, NodeJS, SQL, MongoDB, AWS, Git, Intersystems Caché

REFERENCES AVAILABLE UPON REQUEST