Alexander Bernstein

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

Research interests include **convex and portfolio optimization**, **factor models**, **asset pricing**, multivariate statistics, time-series analysis, stochastic processes, and applications of machine learning in finance.

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 — *March 2020*

Publications

Banerjee, T., **Bernstein, A.**, Feinstein, Z., (2025). "Dynamic clearing and contagion in financial networks". *European Journal of Operational Research* 321.2, pp. 664–675.

Bernstein, A., Shkolnik, A., (2025). "Asymptotics of Quadratic Forms on a Simplex". In Preparation.

Professional Experience

University of California, Santa Barbara — Santa Barbara, CA
Teaching Assistant, Various Classes — *Sept. 2017- June 2025*
- Utilized expertise in areas such as Statistical Theory, Stochastic Processes, Regression Analysis, Time Series, Financial Mathematics, and Risk Theory to teach students
- Developed and graded student coursework

Graduate Student Mentor — *Dec. 2019-June 2024*
- 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 — 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 a 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: Convex Optimization and Statistical Analysis
Strong Knowledge: 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, LaTeX, Markdown and Linux
Working Knowledge: PyTorch, C, Java, JavaScript, NodeJS, SQL, MongoDB, AWS, Git, Intersystems Caché

References available upon request