Nikhil Devanathan

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Education

M.S. Electrical Engineering **3.9 GPA**
Stanford University, *Sep 2022–Jun 2024*
Coursework includes: Convex Optimization II (EE 364B), Numerical Linear Algebra (CME 302), Stochastic Methods in Engineering (MATH 228), Machine Learning (CS 229)

B.S. Math **3.9 GPA**
Stanford University, *Sep 2020–Jun 2024*
Coursework includes: Probability III (MATH 230C), Theory of Statistics III (STATS 300C), Mathematical Finance (MATH 238), Randomized Algorithms and Probabilistic Analysis (CS 265)

Experience

AI Labs Researcher
AI Labs, BlackRock, *Jul 2024–present*
Leveraging AI research to develop protoype solutions for challenges across the firm
- Developing a tool to quantify and manage operational risks

Student Researcher
Information Systems Lab, Electrical Engineering, Stanford, *Jun 2022–Jun 2024*
Optimization research with Prof. Stephen Boyd
- Developed an efficient method to approximate a statistic

AI Labs Intern
AI Labs, BlackRock, *Jun 2023–Mar 2024*
AI research and development to support portfolio management
- Prototyped tools for reducing risk for multi-asset-class portfolios

Technical Intern
Chemical and Biological Signatures Group, Pacific Northwest National Laboratory, *Jun–Aug 2021*
Mass over charge (M/Q) simulation optimization
- Optimized gas molecule collision simulation code to run 140x faster on high-performance computers

Teaching

Teaching Assistant
EE 104 (CME 107), Introduction to Machine Learning *Mar–Jun 2024*

Teaching Assistant
EE 364A (CME 364A), Convex Optimization I *Jan–Mar 2023*

Teaching Assistant
EE 263 (CME 263), Linear Dynamical Systems *Sep–Dec 2022*

Papers

2024
- Efficient Shapley Performance Attribution for Least-Squares Regression, *Statistics and Computing*
- Polyak Minorant Method for Convex Optimization, *Journal of Optimization Theory and Applications*

2023
- The Role of Ion Rotation in Ion Mobility: Ultrahigh-Precision Prediction of Ion Mobility Dependence on Ion Mass Distribution and Translational to Rotational Energy Transfer, *The Journal of Physical Chemistry A*