

Dhyey Mavani

dhyeymavani.com | github.com/DhyeyMavani2003 | linkedin.com/in/dhyey-mavani/
ddmavani2003@gmail.com | 413.275.0720 | dmavani25@amherst.edu

EDUCATION

AMHERST COLLEGE

B.A. IN COMPUTER SCIENCE,
MATHEMATICS AND STATISTICS
Aug 2021 - May 2025 | Amherst, MA
Cum. GPA: 3.93 / 4.00
Major GPA: 4.00 / 4.00
Co-President of Quant club

COLUMBIA UNIVERSITY

EXCHANGE STUDENT
6 Graduate courses in
Mathematics and Statistics
Jan 2023 - May 2023 | New York, NY
Cum. GPA: 4.055/4.000

MIT

BREAKTHROUGH TECH AI/ML
DIVERSITY PROGRAM
May 2023 - Apr 2024 | Boston, MA

COURSEWORK

GRADUATE LEVEL

Machine Learning for Finance (A+)
Bayesian Statistics (A+)
Statistical Inference (A+)
Statistical Methods in Finance (A)
Prog for Quant & Comp Finance (A-)
Math Methods in Fin Price Analysis (A-)

UNDERGRADUATE LEVEL

Advanced Econometrics (A)
Stochastic Processes (A)
Optimization (A)
Distributed Algorithms (A)
Data Structures (A)
Data Science (A)
Probability (Placed Out)
Linear Algebra (Placed Out)
Multivariable Calculus (Placed Out)
Databases (Fall 2023)
Advanced Data Analysis (Fall 2023)
Differential Equations (Fall 2023)

SKILLS

Experienced:

Java • Python • Javascript • \LaTeX
HTML5/CSS3 • R

Familiar:

AWS • C++ • MATLAB • SQL
ReactJS • API integration • Git

INTERESTS

- Badminton (1st in 4 tournaments)
- USA Archery (4 badges, 1st place)

EXPERIENCE

AMAZON WEB SERVICES | SOFTWARE ENGINEERING INTERN

May 2023 - Present | Seattle, WA

- Capturing & displaying 50+ real-time metrics using DynamoDB (NoSQL) database by interfacing with Java 8, Kotlin, and Java Servlet Pages (JSP)
- Using state-of-the-art ML models for analyzing AWS CloudFront's caching & change propagation logs to symptomatically predict future outages

CS, ECONOMICS & MATH DEPARTMENTS | LEAD TA & GRADER

August 2022 - Present | Amherst, MA (and Remote)

- Conducted 40+ office hours for 100+ students in OOP & Adv. Econometrics
- Graded 500+ psets & wrote exemplary solutions for OOP & Cryptography

AMHERST DATA* MAMMOTHS | DATA MINING RESEARCH ASSISTANT

August 2022 - December 2022 | Amherst, MA

- Parallelized SPEck algorithm using Java 8 & Spark (alternative of MapReduce)
- Performed 5+ experiments on x86-64 machine (40 threads) & 348 GB RAM
- Reduced run-times to 1/8th & improved documentation of the code-base

STATISTICS DEPARTMENT | QUANTITATIVE RESEARCH ASSISTANT

April 2022 - December 2022 | Amherst, MA

- Formulated 10+ performance metrics for SPO & MPO trading strategies
- Used Nasdaq DataLink & CVXPortfolio APIs for 5+ experiments in Python
- Deployed RBlocks, a Scratch-like interface, for DEI of 200+ beginners in R

QUANTITATIVE FINANCE INDUSTRY PROGRAMS

Jane Street Quantitative Trading SEE & FOCUS Diversity Program, Citadel Securities Invitational Datathon and Terminal, Google Research CS Research & Mentorship Program, Hudson River Trading (HRT) BIPOC Tech Summit, D.E. Shaw & Co. Latitude Fellowship, Schonfeld SEE Program, Akuna Capital Options 201 Course: Market Making and Volatility Curves, SIG Freshman Discovery Day.

PROJECTS

STATISTICAL TRADING STRATEGY IN FUTURES-MARKETS

Tech Stack: Python (Numpy, Pandas, Scikit-learn, SciPy, Matplotlib,) R, Matlab

- Performed Variance Ratio and Push Response Tests on 5-min price data
- Implemented Trend-following trading strategy with split transactional costs
- Fitted Levy PDF to the distribution of price changes in S&P500 and FTSE100

ML BASED AND PAIRS TRADING ON STOCKS AND PORTFOLIOS

Tech Stack: Python (Numpy, Pandas, Scikit-learn, Matplotlib, TensorFlow,) R

- Implemented "Buying the Loser" and Decision Tree based Pairs Trading
- Coded model pipelines, LSTM-Based Trading strategy & MVP optimization
- Calculated and optimized for portfolio risk metrics such as VaR and ES in R
- Led the team of 5 graduate students while creating final report & presentation

AWARDS

2023	2nd/95	Citadel Securities x Amplify Quant Trading Simulation
2022	3rd/50	Options bot at UChicago Trading Comp. (as the only freshman)
2022	College	2x Walker Prize in Problem-Solving at Amherst College
2020	1st	World Topper at Asia International Math Olympiad
2020	Finalist	Indian National Mathematics Olympiad (INMO) (USAMO equivalent)