

ADAM MOHIB

📞 669-258-9484 — ✉️ adamsmohib@ucsb.edu
in linkedin.com/in/adamsmohib — 🌐 github.com/adubadu1 — 🇺🇸 U.S. Citizen

Education

University of California, Santa Barbara
B.S. in Statistics & Data Science, GPA: 3.7/4.0

Santa Barbara, CA
Sep. 2024 – Jun. 2027

Skills

- **Languages & Tools:** Python, R, SQL, NumPy, pandas, TensorFlow, Scikit-learn, Keras, Bash, LaTeX, Git, GitHub Copilot
- **Frameworks/APIs:** Schwab API, Alpaca API, Streamlit, Tweepy, yfinance, cvxpy, Docker, Azure, MCP
- **Math/Stats/Finance:** Linear Algebra, Optimization, Probability Theory, Stochastic Processes, Matrix Completion, Monte Carlo, Financial modeling, Time series analysis, Risk management, Econometric analysis

Experience

Mathematical Finance Researcher
University of California, Santa Barbara

Oct. 2024 – Present
Santa Barbara, CA

- Developed Monte Carlo simulation framework for maximum determinant matrix completions using Wishart distributions, creating 90% confidence intervals for covariance matrix entries with missing data.
- Extended Royal Society theoretical frameworks through computational analysis of Kronecker products, processing 1000+ simulations to validate maximum entropy approaches in Modern Portfolio Theory.
- Conducted novel research on statistically stable matrix completion methods for financial risk modeling, with findings set to be published in academic journal.

Software Engineering and Financial Data Science Intern
Swing Phi Financial Services

May 2025 – Aug. 2025
Remote

- Engineered real-time financial data pipelines through Python microservices, resulting in over 100x increase in structured L2 data ingestion volume.
- Developed AI-driven trading signal research through machine learning and quantitative modeling frameworks, resulting in enhanced algorithmic asset pricing models.
- Implemented automated data validation and error handling systems, reducing manual intervention requirements and improving overall data pipeline reliability.

Selected Projects

Loom Chatbot App – AI Emotion Logging Chatbot (Proof of Concept)
Technologies: React Native, Python, OpenAI API

Aug. 2025

- Built a proof-of-concept AI chatbot agent in React Native that logs and visualizes user emotions over time using natural language processing.
- Enabled sentiment tracking and interactive charts, supporting analysis of 20 distinct emotion labels for real-time emotion analytics.

Researchify 2 – Agentic Research Assistant
Technologies: Streamlit, OpenAI API, Hugging Face, Kaggle API, Docker, Pandas

Aug. 2025

- Developed autonomous web app for natural language data analysis and secure dataset processing for non-technical users.
- Processed 50+ datasets with multi-layer security and automated ingestion, reducing manual analysis time by approximately 15%.

Time Series Analysis of Sector-Specific ETFs
Technologies: R, quantmod, rugarch, Yahoo Finance API, GARCH modeling

March 2025

- Analyzed volatility clustering in sector ETFs using GARCH models and automated financial data pipelines.
- Processed 2+ years of daily OHLC data, revealing strong volatility clustering and conditional heteroskedasticity.

Schwab L2 Order Book Platform
Technologies: Python, Schwab API, Azure, CSV, Bash

July 2025

- Built low-latency Level 2 order book logger for real-time market data capture and high-availability monitoring.
- Achieved sub-millisecond data processing and 99% uptime for 24/7 streaming of market data.