

Hamzeh Hamdan

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Education

Harvard University

Cambridge, MA

B.A., Computer Science & Statistics (Honors). Minor in Mathematics. GPA: 3.72.

May 2025

Thesis: *Cross-Market Signals: Economic Spillovers Across Markets*

Coursework: Probability, Statistical Inference, Linear Models, Algorithms, Systems Programming and Machine Organization, Data Science, Deep Learning for Unstructured Data, SWE with Generative AI.

Experience

Cresset Capital

Chicago, IL

Software Engineer

Oct 2025 – Current

- Designing and implementing AI infrastructure to enable adoption across business functions.
- Developing agentic AI systems to automate internal workflows and enhance efficiency.
- Building analytics and monitoring frameworks to track AI usage, performance, and compliance requirements.
- Evaluating and assessing vendor AI solutions to inform strategic technology decisions.

Comcast

Philadelphia, PA

Finance Intern

May 2024 – Current

- Developed the first internal generative AI tool for finance teams using the Azure OpenAI API.
- Integrated database connections and management, file search, report generation, and data analysis and visualization in the application through a Python user interface.
- Initial testing with equity-based compensation analyses reports increased efficiency by ~93%.

Propel Bio Partners (Biotech Hedge Fund, \$150M AUM)

Remote

Data Science Intern

January – February 2024

- Developed a Python class that runs Monte Carlo simulations to estimate portfolio return.
- Provided methods for estimating the margin of error Propel Bio has for their estimates of the probability a long-term investment will be successful, and for assessing the risk of investments.
- Created a dashboard that displays simulation results and investment analyses.

Projects

ARIMA-based Pairs Trading of Bitcoin and Ethereum

May 2024

- Trained an ARIMA model on the log price spread and the log returns spread of BTC and ETH on data from 2016 to 2021, with test sign prediction accuracies of 52.2% and 74.8%, respectively.
- Implemented a pairs trading strategy using the price spread that returned 23.5% on 2022-2023 testing, during which holding BTC and ETH would've returned -40% and -56%, respectively.

Estimating Company Similarity from Embeddings of SEC 10-K Filings

May 2024

- Built a web app that uses BERT-like embeddings of SEC 10-K filings to compare companies' similarity by specified subsections of their 2023 10-K filing.
- Created a Python class that allows for replication with newer data, providing methods for tokenizing and embedding text, clustering companies, visualization, and result validation.

Skills

Technical: Python, Linux, SQL, Azure Services