

Humzah Merchant

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EDUCATION

The University of Chicago

Chicago, IL

Bachelor of Science in Statistics and Computer Science (GPA: 3.8/4.0)

Expected June 2026

- **Courses:** Statistics: Machine Learning (Graduate), Statistics: Machine Learning and Large-Scale Data Analysis (Graduate), Statistical Theory and Methods, Causal Inference, Applied Math Dynamic Modeling, Advanced Business Finance, Trading and Exchanges, Practical R Programming, Quantitative Portfolio Management and Algorithmic Trading (Graduate), Financial Econometrics (Graduate), Introduction to Probability Models (Graduate),
- **Financial Markets Program:** Selective, three-year program focused on quantitative finance through weekly workshops, personalized advising, employer visits and coursework at the Chicago Booth School of Business

SKILLS

Computing: Python, NumPy, Pandas, Scikit-Learn, Hugging Face (Transformers), PyTorch, R, SQL, Git

Knowledge: Software Engineering, Statistics and Data Analysis, Financial Markets and Market Microstructure, Quantitative Research, Algorithmic Trading, Econometrics, Regression Analysis, Time Series Analysis, LLMs and NLP

WORK EXPERIENCE

Apollo Global Management

El Segundo, CA

Software Engineering Intern

May 2024 – August 2024

- Initiated and developed an internal tool using Python, Angular, and SQL, which went through 5+ user demos and was successfully deployed through development, UAT, and production stages. This tool is projected to save the team 15-20 hours per week.
- Worked on a group intern project. Developed tools to process unstructured PDFs into structured data. Developed a chatbot integrated with internal data, enabling analysts to query and process data without hallucinations.

NASA Johnson Space Center

Houston, TX

Software Engineering Intern

June 2023 – August 2023

- Led a team of high school interns on the automation of a robot around the NASA moon rock yard using Python (GUI, Networking, Pathfinding Algorithms) and C++ (Controls) as part of the Summer Robotics Academy

Mechanical Engineering Intern

June 2022 – August 2022

- Designed new parts for the lunar terrain vehicle ground test unit (LTV GTU) and refurbishment parts for the Space Exploration Vehicle (SEV) in SolidWorks and Fusion 360 as part of the Summer Robotics Academy

RESEARCH EXPERIENCE AND EXTRACURRICULAR

UChicago Trading Competition

April 2025

1st Place Winner Case 2 (Portfolio Optimization/Data Science)

- Writeup of winning solution: <https://nbviewer.org/github/HumzahM/UTC2025-Case2-Writeup/blob/main/case2.ipynb>
- Also wrote an automated Llama 3 News Trading Bot and ETF Arbitrage Bot for the Algorithmic Trading Case

UChicago Booth School of Business with Dr. Bradford Levy

Large Language Models and Financial Data (*Progress ongoing, some details withheld*)

October 2024 – Present

- Designed an experiment to test for the existence of a certain pattern (withheld) in the output of LLMs when processing financial data. I am iterating the design of the experiment and analysis techniques over time.
- Building complex systems with Python to test the hypotheses using large input datasets on OpenAI, Anthropic, DeepSeek, Llama, and other models and to analyze and visualize the results on massive output data sets

USC Marshall School of Business with Dr. Larry Harris

Understanding Markets in “Trade Time”

October 2023 – April 2024

- Research project testing the hypotheses that asset returns are more explainable in a framework where time is measured by trading activity compared to chronological time.
- Utilized Python, Pandas, and SQL to gather and process large datasets of returns and daily number of trades from Wharton WRDS and CRSP databases

IMC Prosperity Trading Competitions

April 2024 and March 2023

- Developed trading strategies and models including market making, pure arbitrage, pairs trading, adverse selection, Black-Scholes options pricing, and Monte Carlo Simulations to trade simulated assets and securities