# BOHAN SHU

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## EDUCATION

**Georgia Institute of Technology** **Atlanta, GA**
*Master of Science in Quantitative and Computational Finance, GPA: 3.80/4.00* *Expected Dec. 2025*

**University of Michigan** **Ann Arbor, MI**
*Bachelor of Engineering in Computer Science, GPA: 3.77/4.00; Minor: Mathematics* *May 2024*

## EXPERIENCE

**Intercontinental Exchange** **Atlanta, GA**
*IME C++ Development Intern* *June. 2025 - Present*

- Developed a live playback function for the ICE Matching Engine, enhancing message reading infrastructure to enable real-time reconstruction and analysis of market events for testing and post-trade analysis.
- Improve IME (ICE Matching Engine) regressions testing framework.

**Harvest Fund Management Co., Ltd.** **Beijing, China**
*Quantitative Developer Intern* *Dec. 2024 - Feb. 2025*

- Developed an **order execution evaluation framework** using the efficient frontier model and TCA method. Implemented **nonlinear optimization** in Python to model market impacts and generated efficient frontier charts. Evaluated algorithm performance with metrics like VWAP, PWP, and RPM.
- Built an intelligent email processing system with the company's internal **LLM**, using Python for integration and **NLP** techniques to identify tasks in emails. Created dynamic task lists to improve workplace efficiency.
- Implemented a **Retrieval-Augmented Generation (RAG)** system for answering financial report queries. Streamlined data cleaning, vector database construction, and embedding-based retrieval, with a real-time query interface in **Streamlit**.

**GF Fund Management Co., Ltd.** **Guangzhou, China**
*Quantitative Researcher Intern* *Dec. 2023 - May. 2024*

- Established a dividend prediction model in the A-share market, utilizing **MySQL** to extract data from Datayes! and employing NumPy to build a framework for analyzing company dividend patterns. Effectively avoided **high dividend traps** and constructed a stock selection portfolio that outperformed the CSI Dividend Index's annual return by **3.7%**.
- Enhanced the Risk Parity Portfolio Allocation Model using **Principal Component Analysis (PCA)**, and employed the **BackTrader** framework in **Python** for backtesting, leading to a **3%** increase in returns.
- Constructed an investment portfolio with A-share equities linked to commodities to replicate the CRB Index, and used **Python** to calculate the correlation coefficient for evaluating the portfolio's tracking accuracy.

**Northeast Securities Co., Ltd.** **Shanghai, China**
*Quantitative Analyst Intern* *May. 2023 - Aug. 2023*

- Framed **6** valid A-share **daily alphas** using self-developed **pandas** and **numpy** based backtesting framework, achieving **Sharpe ratios over** $\geq$**3** with **turnover under 50**% for momentum, turnover, and volatility strategies.
- Developed a **Genetic Algorithm-based** factor mining framework using the **GPlearn** library for automatic factor mining on daily frequency A-share price-volume data, with IC value employed as the fitness function.
- Utilized **Tushare** API in **Python** to retrieve close price data for diverse assets, and applied filtering criteria based on specific close price and historical volatility thresholds to generate a pool of selected assets.

## PROJECT

**College of Engineering, University of Michigan** **Ann Arbor, MI**
*Deep-learning-based Multi-modal Fusion with Humor Semantics* *Feb. 2023 - Apr. 2023*

- Developed and implemented an **Attention-based Multi-modal Fusion** with **Humor Theory model** for meme humor classification in **PyTorch**, leveraging both **text and image embeddings** to detect humor in memes.
- Utilized the **Memotion 2.0 dataset** and preprocessed the dataset by extracting text using **Google OCR system**, enhancing image quality, and **fine-tuning RoBERTa** to achieve a final embedding of 768D.
- Conducted extensive **hyperparameter tuning** and evaluation on the Memotion dataset, outperforming the published best model which used the Bert model by **1.3%**.

## TECHNICAL SKILLS

**Programming Languages**: C/C++, Python, Matlab, SQL, R, Stata, Javascript, Typescript, Solidity, Java
**Tools**: Git, Jupyter Notebook, Linux, Docker, Bash, Sklearn, PyTorch, LaTeX