JIAZHENG (JASON) LIU

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EDUCATION

MIT Sloan School of Management — Cambridge, MA
Master of Finance (Financial Engineering Concentration), February 2025 — 2023-Present

- Relevant Coursework: Options & Futures, Fixed Income Analysis, Advanced Financial Math, Advanced ML in Finance

Emory University — Atlanta, GA
B.S. in Applied Mathematics and Statistics, Secondary Major: Computer Science — 2019-2023

- Cumulative GPA: 3.9/4.0; Honors: Dean's List Spring 2022, Fall 2021, Fall 2020, Oxford Honor List Fall 2019
- Relevant Coursework: Machine Learning, Probability and Statistics, Regression Analysis, Linear Optimization, Partial Differential Equation, Numerical Analysis, Linear Algebra, Data Mining, Data Structure and Algorithms
- Teaching Assistant: CS 334: Machine Learning, QTM 150 Introduction to Statistical Computing

FRM Level I (Passed) - GARP — May 2024

CFA Level I (Top 10 %) – CFA Institute — Aug. 2022

INTERNSHIPS & PROFESSIONAL EXPERIENCE

Optiver — Shanghai, China
Market Risk Summer Analyst — Summer 2024

- Developed new market movement risk stress-testing framework for the team using regression analysis, CCA Model, and hierarchical clustering; integrated additional base movement scenarios into Optiver's current OGRE risk management UI
- Incorporated fundamental characteristics, volatilities, and correlations of China's commodities into the model
- Reported detailed risk assessments daily by monitoring commodity options trading risks (Greeks, volatility, slope risks)
- Executed options trading strategies like gamma scalping, risk reversal, and calendar spread on options trading simulations

MIT Sloan Joint Finance Lab - Tradeweb — Cambridge, MA
Quantitative Research Analyst — Winter 2023

- Implemented time series models like ARIMA to discover the relationship between returns of corporate bonds
- Calculated returns by determining average time step between consecutive trades assuming continuous compounding
- Refined TRACE credit data by removing multi-legged trades and selectively filtered by trade types D2D and D2C

Emory Quantitative Theory & Methods Department - Balentine — Atlanta, GA
Capstone Project Team Lead — Jan. 2023-May 2023

- Performed independent quantitative research and implemented momentum trading models on Python to accomplish stock selection based on optimized annualized returns; backtested and showed an average increase in excess return of 1.8%
- Created hyperparameter tuning functions to find the optimal parameters such as number of rolling months and years
- Used Excel Solver and non-linear optimization to optimize asset allocation based on Sharpe ratio and portfolio returns

Emory Undergraduate Research Fellowship — Atlanta, GA
Research Assistant to Professor Donald Lee — Aug. 2022-Dec. 2022

- Investigated speed performance difference between XGBoost and LightGBM running on GPU, and found histogram based XGBoost to be 9 times faster than LightGBM on GPU with a sacrifice of accuracy of only 2.35%
- Performed hyperparameter tuning on XGBoost and LightGBM using optuna package on Kaggle Notebook

CITIC Trust PE — Beijing, China
Fixed Income Summer Analyst — Summer 2021

- Extracted China's fixed income market data from Wind Terminal; performed data-cleaning for macro analysis
- Periodically updated waitlists of bonds based on credit ratings; closely kept track of market transactions of reverse repos
- Studied research reports of new financial instruments in China's financial markets, such as REITs, and presented to team

ADDITIONAL INFORMATION

- **Technical Skills**: Proficient in Python (Pandas, NumPy, Scikit-learn); Knowledge of R, SQL, TensorFlow, Java, C
- **Leadership**: Vice President of AI & Machine Learning Club; Head math tutor at Emory math department
- **Interests**: Dancing (Emory Mulan Dance Club Team Leader), Cardistry, Gym, Cooking, Basketball, Piano, Chess