Yuwuxian (Gary) Ji

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, **GPA: 4.21/4.00** **Expected December 2023**

Nanjing University, Nanjing, China
Bachelor of Economics in Financial Engineering, **Cum Laude, GPA: 4.00/4.00** **June 2022**
Honors: National Scholarship, Merit Student of Nanjing University, and Merit Student of Business School

Selected Coursework: Analysis of Financial Time Series, Derivatives, Fixed Income Securities, Operations Research Tools for Financial Engineering, Monte Carlo Simulation, Deep Learning, Reinforcement Learning, Intro to Machine Learning, Data Structures, Algorithm Design and Analysis, Numerical Analysis, Big Data Technologies, Intro to Database

SKILLS

Technical: Python, C/C++, MATLAB, SQL, R, Wind

EXPERIENCE

Quantitative Research Intern, *SIYE Investment Management Co., Ltd.*, Shanghai, China **Oct. 2021 to June 2022**

- Developed high-frequency alternative data pipelines to facilitate trading in relevant stocks, including scraping sales records from e-commerce platforms and retrieving live feed data from posts and keyword searches on social media.
- Improved Jump of Report Date Factor (JOR) by an extra 3% annualized return in 5-year backtesting; added sentiment analysis on analyst reports by AutoNLP to extract stocks with implications of better-than-expected earnings.
- Constructed a dynamic stock selection strategy by applying Random Forest to select optimal factors from 45 factors and applying XGBoost for multi-class return prediction in monthly rolling backtesting (Sharpe ratio above 2).
- Conducted research on backtesting overfitting, and streamlined the workflow for its probability estimation.

Quantitative Research Intern, *Huatai Securities,* Beijing, China **July to Oct. 2021**

- Built a Markov-switching model with 6 derived vector autoregressive forms based on HMM in MATLAB to estimate market regimes for asset prices; employed EM algorithm to update inferences and find optimal parameters.
- Applied the Markov-switching model for regime-based risk-adjusted return prediction and dynamic asset allocation across stocks, fixed-income securities, currencies, and commodities.

Fixed Income Research Intern, *GF Securities,* Shanghai, China **Apr. to June 2021**

- Scraped millions of transaction records from the China land market website, with MapReduce applied to speed up the data processing; established urban investment SQL database and delivered a 26-page report on municipal bonds.
- Assisted in building the Copula model and conducted Monte Carlo simulations to analyze ABSs' credit default rates.

PROJECTS

2021 International Mathematical Contest in Modeling (team of 3), Nanjing, China **Feb. 2021**

- Built a vector autoregression model for predicting the spread of Asian giant hornets on 4440 reported sightings in R.
- Created a convolutional neural network for detecting erroneously reported sightings, implemented BERT with t-SNE to generate features from sighting records, and applied transfer learning with SMOTE to preprocess imbalanced data.

Citi Cup Financial Innovation Application Competition (team of 10), Nanjing, China **Sep. 2020 to Mar. 2021**

- Designed and optimized the arbitrage strategy for Shanghai Stock Exchange 50ETF options; built and integrate the alpha, risk and transaction cost models; enhanced trading signals in back-testing, achieving a Sharpe ratio above 2.
- Contributed to the transaction execution algorithm, SQL database maintenance, and front-end web application.

ACTIVITIES/INTERESTS & CERTIFICATES

Vice President of Student Career Development Association; Mathematical Modeling Association; soccer (2x title winner in school league); Zentangle; board games
Certificate: Dataquest Certificate of Completion (Data Cleaning, Parallel Processing, Data Pipeline, Git and Version Control)