Joshua (Yuanzhi) Ma

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EDUCATION

Cornell University Ithaca, NY
Master of Engineering in Operational Research, GPA: 4/4 Expected Dec. 2024

University of Michigan – Ann Arbor * Ann Arbor, MI
Bachelor of Science in Statistics, University Honors, GPA: 3.8/4 May 2023

Courses*:* Machine Learning • Python for Finance • Monte Carlo Methods • Optimization Modeling • Learning with Big Data • Statistics & AI (Python)* • Statistical Computing * • Regression Analysis in R* • Statistical Inference*

WORKING EXPERIENCES

Research Consultant, *WorldQuant* Jan. 2024 to Present

- Leveraged diverse data sources, including fundamental, price & volume, and social media data, to create predictive models for equities, enhancing investment strategies and decision-making processes for portfolios construction
- Analyzed cutting-edge academic research to devise 40+ innovative, market-neutral Alphas, enhancing prediction accuracy for financial instrument price movements

Quantitative Analyst Intern, *Kuangte Technologies* Jun. to Aug. 2023

- Developed SSE 50 index option trading strategies using Python API, orchestrated backtesting on historical data for model validation, outperformed the index by 22% and increased book PnL by 4% annually
- Lead a team of three to conduct literature reviews to gather ideas for enhancing current strategies and create reports and present findings to the team leader, thereby facilitating strategy enhancements based on empirical evidence

Investment Management Intern, *Shaanxi International Trust Co., Ltd.,* Jun. to Aug. 2022

- Enhanced portfolio risk assessment processes, achieving a 15% efficiency boost by automating risk-adjusted performance calculations and integrating a comprehensive analysis of fundamental, and macroeconomic factors
- Implemented and tested time series models to analyze the volatility in the stocks listed in the SSE primary sector, create weekly reports to team lead of latest market movements

Project Assistant Intern, *Guocai Xintong Private Fund Management Co., Ltd.,* May to Jul. 2021

- Executed meticulous data validation and cleansing for 1000+ customer records, employing R for statistical modeling and risk prediction, enhancing business strategy formulation
- Applied regression and other statistical techniques to predict borrowing companies' default rates, aiding in the refinement of risk management strategies

PROJECTS

WorldQuant BRAIN International Quant Championship*WorldQuant* Mar. to Aug. 2023

US National Champions: 1/234 teams

- Developed and optimized alphas (mathematical models) for US and Chinese equities, achieving an average PnL of 10.68% and a turnover of 13.48% through mean-variance optimization and back-testing
- Collaborated with a team of 4 to present top performing alphas to 1000+ WorldQuant employees with average out sample sharpe ratio of 2.1

Time Series Analysis with Deep Learning, *UMich, Ann Arbor, MI* Jan. to Apr. 2022

- Pioneered a deep learning project to forecast temperature changes, achieving an 83% prediction accuracy through the development of neural networks, incorporating LSTM and bidirectional layers

Data Cleaning and Visualization of Luminosity Data set, *UMich, Ann Arbor, MI* Sep. to Nov. 2021

- Led a data science initiative to unearth key luminosity determinants, leveraging the tidyverse package for advanced data cleaning and visualization, facilitating the application of high-dimensional regression models for enhanced model diagnostics

SKILLS

Python (Numpy, Pandas, Scikit-learn), Tensorflow, R(dplyr, ggplot2), SQL, Power BI, MATLAB and Excel