YITONG WANG

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EDUCATION

Peking University, Guanghua School of Management (GSM) Sep 2019 - Jul 2023

Finance major. Data Science minor. Cumulative GPA: 3.62/4.00.

The University of Chicago, Physics Science Division Sep 2023 - Dec 2024

Master of Financial Mathematics. Cumulative GPA: 3.93/4.00.

SKILLS

Computing: Python (NumPy, Pandas, Matplotlib, Scikit-Learn), Jupyter notebook, SQL, VBA, MS Office, GitHub, Latex

Knowledge: Machine Learning, Data Science, Time Series Analysis, Statistical Modeling, Financial Markets

Trading Products: Equities, Options, Futures, Commodities, Fixed Income and Fixed Income Derivatives

ACADEMIC RESEARCH

Machine Learning and Prediction on NYC Real Estate Price (Peking University) Aug 2023 - Nov 2023

- Cleaned and visualized data of property transactions in New York City in 2015 and the crime information in New York City in 2014.
- Established the forecast model using scikit-learn, involving ridge and lasso regression, random forest, gradient boosting, ada boosting and deep learning (neural networks); model accuracy rate reached 95%.
- Conducted feature engineering with PCA and classified houses according to characteristics and prices using K-means, and simulated counterfactual analysis based on the prediction model.

Portfolio Optimization for Representative Stocks in U.S. Mar 2022 - Jul 2022

- Predicted the 10 selected U.S. stock's returns using ARIMA model according to the historical daily data. Conducted portfolio optimization and performed Monte Carlo simulation to display the efficient frontier by using scipy and introduced the quadratic utility function and risk aversion coefficient and used cvxpy to optimize the weight allocation with different risk aversion level.

INTERNSHIP EXPERIENCE

XY investments | Fixed Income Quantitative Research Summer Intern | Shanghai July 2024 – Aug 2024

- Improved Monte Carlo simulations for stock prices by incorporating dividends and jump processes. Applied the Lee-Mykland method to identify jumps and implemented convertible bond pricing using Chinese stock market data.
- Developed a convertible bond risk model based on the Barra CNE5 model, utilizing 26 industry factors and 10 style factors. Calculated and adjusted the factor return covariance matrix using Newey-West method. Applied the risk model to calculate the volatility of the CSI convertible bond index portfolio and performed dimensionality reduction on the covariance matrix.

E fund Management | Fixed Income Quantitative Research Summer Intern | Beijing June 2024 – July 2024

- Analyze data characteristics to identify institutions with significant trading attributes in long-duration interest rate bonds.
- Investigate the lead-lag relationship and divergence characteristics of institutional trading behaviors concerning market states, with a focus on their explanatory power for trend-following strategies and proposed strategic improvements to enhance the performance of trend-following strategies based on the unique characteristics of institutional trading behaviors.

Mizuho Bank | Project Lab Intern | The University of Chicago Mar 2024 – May 2024

- Reproduced the paper "Gamma and Vega Hedging Using Deep Distributional Reinforcement Learning" by implementing the model in Python code, enabling the use of D4PG with quantile regression to develop a hedging strategy for a trader managing stochastically arriving options dependent on a single underlying asset.
- Conducted back testing of the model using real market data of EURUSD to evaluate the model's performance and robustness.

Cloudquant | Project Lab Intern | The University of Chicago Jan 2024 – Mar 2024

- Cleaned, explored and visualized a dataset containing trading information for all options trades across US exchanges.
- Reproduced the paper "Does Option Trading Convey Stock Price Information?" by examining the cross-sectional relation between the two components of the stock order imbalance and the stock returns using the cleaned data.

Mizuho Bank | Treasury Desk Analyst Intern | New York Aug 2024 – Sep 2024

- Collaborate with and support the Treasury desk team in model validation, model creation, methodology and testing documentation in risk management and enhance the existing Treasury system for scenario analysis.
- Create PL simulation dashboard of the Treasury desk's balance sheet using python and plotly.

LEADERSHIP AND ACTIVITIES

Desk For Us Charitable Project | Volunteer Feb 2020 – May 2020

- Participated in the organization of the volunteer teaching team and support the junior high school students in Wuhan during Covid-19 by teaching online.

ADDITIONAL INFORMATION

Chinese (Native), English (Fluent); Proficient in Wind, Bloomberg, Capital IQ, WRDS, Nasdaq Database.