

Huajuan Zhou

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EDUCATION

University of Rochester

Ph.D. in Finance

Rochester, NY

Aug. 2024 – Aug. 2029

- **Research Interests:** Behavioral Finance, Asset Pricing, Machine Learning

Columbia University

M.S. in Financial Engineering (GPA: 3.69/4.0)

New York, NY

Jan. 2021 – Dec. 2022

- **Relevant Coursework:** Machine Learning, Optimization, Monte-Carlo, Time Series Analysis, Stochastic Models

Central University of Finance and Economics

B.S. in Financial Engineering (GPA: 91.29/100) (Ranking: 5/82)

Beijing, CN

Sep. 2015 – July 2019

- **Honors:** Well-Rounded Individual (top 2%) & Academic (top 3%) & Research Innovation (top 3%) Scholarship

PROFESSIONAL EXPERIENCE

Huawei Technologies

Software Development Engineer, ICT Products and Solutions Department

Shanghai, CN

Mar. 2024 – Aug. 2024

- **Software Development:** Researched about prompt engineering ways to do code annotation with deployed AI large models in Python; improved acceptance rate of code generation by 3%; familiar with the extension ecosystem in IDE; mastered backend development frameworks; obtained Huawei Working-level Software Development Capability Certification in Python.
- **Product Promotion:** Increased Web IDE product coverage rate from less than 35% to more than 80% while visiting users; identified and resolved user pain points; proficient in computer knowledge related to Web IDE.

CME Group

Quantitative Risk Management Analyst, Post Trade and Optimization Service Department

New York, NY

Feb. 2023 – Nov. 2023

- **Margin Calculation:** Researched about hybrid offset models across different asset classes and margin models, with SPAN and SPAN 2 included; introduced covariance terms as an indicator of offset between two specific sub portfolio groups; applied various Historical VaR models, different Stress VaR models, liquidity and concentration charge to calculate margins; processed data through normalization, diagonalization, decorrelation, rescaling, PCA, EWMA, EWMC and so on.
- **Backtesting:** Used C#, SQL or API to fetch margin calculation components; wrote Python code to do data aggregation, data validation, statistical indicator calculation, and plotting; tested margin models with energy, equity, metal portfolio groups; analyzed margin model stability, effectiveness, coverage performance from data, logical and math perspectives.

Wisdom Capital Asset Management Company

Quantitative Research Intern, Derivatives Department

New York, NY

June 2022 – Aug. 2022

- **Return & Risk:** Utilized Python to explore annualized short delta-hedged S&P 500 option returns across surface and estimated return volatility, losses under stress tests and conditional value at risk across surface; found 1-month near-the-money options showing highest returns with high risk.
- **Price Prediction:** Calculated the risk neutral density for the S&P 500 with data extracted from real-time bid and ask quotes for index options; this provided feasibility to statistical strategies.

Anzhi Investment Management Company

Quantitative Research Intern, IT Development Department

Shanghai, CN

Nov. 2020 – Feb. 2021

- **Timing Strategy:** Created a timing strategy by minimizing tracking error; extracted periodic factors using fourier transformation as regime segmentation indicators; predicted factor de-trended cumulative return changes; this resulted in 60% prediction accuracy.
- **Performance Analysis:** Used Python to analyze factor performance from perspectives of periodic factors, endogenous variables and exogenous variables; calculated factor momentum, factor dispersion and factor crowdedness; used AICc to select market and macroeconomics indicators predicting Rank Information Coefficients with LR; this led to 1%-3% higher annual return than the benchmark.

Yunsheng Investment Management Company

Quantitative Research Intern, Asset Management Department

Shanghai, CN

Jan. 2020 – May 2020

- **Factor Construction:** Researched stock price factors related to over 3000 public funds, calculating Information Coefficient, Information Ratio and applying group analysis; this achieved 9% monthly return.
- **Mean-Reversion Strategy:** Formulated Au futures arbitrage strategies and calculated average returns, maximum drawdown and win ratio; increased returns by 20%.

Huaxi Futures

Quantitative Research Intern, Derivatives Department

Chengdu, CN

Feb. 2019 – Apr. 2019

- **Option Pricing:** Priced options using the Black-Scholes Option Pricing Formula, Monte Carlo Simulation, and Binomial Option Pricing Model in MATLAB; wrote quotation reports to influence stakeholders' decision making.

RESEARCH & PROJECTS

High Frequency Factors (Research with Dacheng Xiu, Booth School of Business): Formulated 5-min Fama-French or momentum factors for stocks and futures. For stocks: constructed portfolios using daily WRDS data; got trade and quote data; built matching tables; constructed MKT, SMB, HML, RMW, CMA and momentum factors. For futures: defined 1-day time span; limited data to only trading hours; differentiated pit and electronic trading markets; re-sampled to high frequency.

Recommender System (Machine Learning in Practice course project): Built Baseline Bias Model, Item-based Neighborhood Model and Neural Collaborative Filtering with Python, formulating root-mean-square error and ranking prediction score as metrics; this achieved low root-mean-square error (1.4593).

Fund Selection with Ranking (ASK2.ai): Used OLS, Lasso, Random Forest Regressor & Classifier, LSTM, Logistic Regression in Python to predict fund future performance in 3 years with regime segmentation; 60% beat the average.

Hidden Markov Model (China Futures): Developed a Hidden Markov Model with futures data through Python, selecting factors from 30, 90, 150, 240, 630-minute return rates, bias ratios and volatility; this led to 27% annual return.

Events-Driven Strategy (China Asset Management Research Center): Built a logistic model with SAS identifying indicators to predict high-dividend companies with 67% accuracy.

SKILLS & INTERESTS

Programming: Python (Numpy, Pandas, Matplotlib, Scipy, Scikit-learn, Statsmodels, Tensorflow, Keras, Pymongo), MATLAB, SAS, C/C++/C#, Java

Interests: Running (2nd place in 5000-meter running at school), Orienteering (3rd prize in national competition)