

YIWEI SHI

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EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics in Finance (expected – January 2020)

- **Coursework:** Mean-variance optimization, Feynman-Kac, Monte Carlo Simulation, local volatility model, Non-linear PDE, time series analysis, portfolio management with dynamical programming

NEW YORK UNIVERSITY SHANGHAI

Shanghai, China

BS in Honors Mathematics, Minor in Data Science (2014 - 2018)

EXPERIENCE

HWABAO WP FUND MANAGEMENT

Shanghai, China

Analyst Intern (June 2019 – Aug 2019)

- Developed a multi-asset FOF strategy with target volatility and drawdown control method, did volatility forecasting using EWMA model
- Chose SP500, HSI index, CSI300, CSI500, and CSI Aggregate Bond Index (2009-2019) for backtest, bootstrapped 500 sample paths using historical data, adopt the strategy on sample paths, the strategy yielded a sharpe ratio median of 0.71
- Screened funds according to the information ratio and scale factor, adopt backtest on selected funds, got an annualized return of 8.03% and annualized volatility of 5.84%
- Compiled the strategy into an index, combined with OTC options to build a capital guaranteed product

GUOTAI JUNAN SECURITIES

Shanghai, China

Quantitative Researcher Intern (June 2017 – Aug 2017)

- Applied binary tree, finite difference method and Barone-Adesi-Whaley model on American option pricing
- Implement control variable method to evaluate the performance of various American option pricing models and researched the advantages of models under different situations

NEW YORK UNIVERSITY SHANGHAI

Shanghai, China

Research Assistant (September 2017 – May 2018)

- Researched on fine properties of Wiener process: reflection principle, scaling invariance, time inversion, Kolmogorov's extension theorem, law of iterated logarithm, Donsker invariance principle
- Led weekly discussion and reported on research progress

PROJECTS

NEW YORK UNIVERSITY

New York, NY

Monte Carlo Simulation in JAVA (September 2018 – December 2018)

- Applied MC simulation to price European, Asian options, and American option (least square MC)
- Utilized middleware-based parallel computing and OpenCL to accelerate simulation computation
- Implement variance reduction with importance sampling and antithetic variates

K-Means Clustering (September 2018)

- Implemented and improved the Lloyd's algorithm to perform point clustering and fixed-size clustering
- Wrote unit test to evaluate and debug the algorithms

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Shanghai, China

Machine Learning on Toxic Comments Classification

- Implement bag-of-words algorithm for NLP to transport sentences into feature vectors
- Adopt Principal Component Analysis to reduce dimension of feature vectors from 13000 to 2000
- Applied two machine learning algorithms, support vector machine and logistic regression, to classify online toxic comments from non-toxic ones, reached an accuracy of 96.3% on test set.

COMPUTER SKILLS/OTHER

Programming Languages: Java, Python, Pandas

Other Software: MATLAB, Jupyter Notebook, Microsoft Office

Languages: Mandarin (native), English (fluent)