MINGYUE ZHANG

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EDUCATION

NEW YORK UNIVERSITY New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics in Finance (expected – December 2020)

- ***Coursework:*** Asset pricing, Interest rate & FX models, SVM, Random forests, Logistic regression, Ito calculus, Scientific computing in Python (Monte Carlo, Interpolation, PCA)

WUHAN UNIVERSITY Hubei, China

BA in Finance and BS in Mathematics, Major in Mathematical Finance (2015 – 2019)

- ***Coursework:*** Greek letters, Ridge regression, K-Nearest Neighbors, Mathematical Analysis

EXPERIENCE

SECURITY BENEFIT New York, NY

Quantitative Analyst Intern (Derivatives Trading and Analytics) (Jun. 2020 – Jul. 2020)

- Researched and replicated indices strategies which used quantitative techniques involving vol control, clustering, information ratio, etc. (outcome error less than 1 bp)
- Analyzed and replicated popular indices on market which use hybrid instruments as components and compared indices' performance to design new index methodology
- Achieved to use optimizer to deduce unknown parameters from data
- Programed vanilla option pricer application in Matlab

SHENWAN HONGYUAN SECURITIES Beijing, China

Quantitative Analyst Intern (Jan. 2019 – Apr. 2019)

- Analyzed at-the-money commodity options' Theta and implied volatility data to make profit from time value through VBA program which can download and manipulate data automatically over changeable periods and commodities' combinations
- Built commodity indices as predictor of future prices using Dow Jones Commodity Index's methodology and programed to download, save over 100 GB tick-level data in HDF5 format and tested strategy's performance (13% total return rate, 9% max drawdown)
- Programed to automatically match, classify, write and save debts' information (about 2000 lines) into certain types and formats from txt file to excel using Python
- Maintained and ameliorated private quantitative factors library by Python

Quantitative Analyst Intern (Jul. 2018 – Dec. 2018)

- Researched and implemented Choppy Market Index and R-Breaker to construct CTA strategy, back-tested its performance in Python and ameliorated model (12% total return rate)
- Dug up over 300 companies' research reports to identify their potential needs for options
- Participated in constructing local database for minute-level data of commodity futures through Python which can automatically download and refresh data from cloud to local database

PROJECTS

Monte Carlo Simulation in Java

- Priced European and Asian options, evaluated the stopping criteria based on payout's standard deviations and Applied importance sampling to significantly reduce the variance

Stock Selection Using Machine Learning in Python

- Implemented random forest regression-based algorithm and Python framework to identify stocks that will beat market (outperformed CSI 300 index on the 5-year period in the back-testing)

COMPUTER SKILLS/OTHER

Programming Languages: Python, C/C++, Java, SQL, VBA, MATLAB, R