

## MINGYUE ZHANG

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### EDUCATION

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#### NEW YORK UNIVERSITY

New York, NY

#### The Courant Institute of Mathematical Sciences

#### MS in Mathematics in Finance (expected – December 2020)

- **Coursework:** arbitrage-based pricing of derivative securities, PCA, risk management, Ito calculus
- **Future Coursework:** linear and quadratic methods in regression, classification and unsupervised learning, Bayesian approach to modeling, nonlinear PDEs

#### WUHAN UNIVERSITY

Hubei, China

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

- **Coursework:** Greek letters, time series analysis, linear algebra, mathematical analysis

### EXPERIENCE

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#### 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 on weight adjustment and programmed to download, save over 100 GB tick-level data in HDF5 format and tested strategy's performance in Python (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)
- Tested CTP trading system regarding risk management and stability and wrote up detailed report
- Dug up over 300 companies' research reports to identify their potential needs for commodity options and rate them for sales team
- 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
- Added time-weighted average price algorithm to CTP trading system through Python and achieved spreading out one trading request evenly over given time

#### WUHAN UNIVERSITY

Hubei, China

#### *Research Assistant* (May. 2018 – Jul. 2018)

- Implemented and tested Lucas Tree Asset Pricing Model in Python

### PROJECTS

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#### *Monte Carlo Simulation in Java*

- Priced European and Asian options by generating paths of stock prices and evaluated the stopping criteria based on payout's standard deviations
- Applied importance sampling to significantly reduce the variance

#### *Portfolio Optimization in R*

- Implemented Markowitz's efficient frontier to construct portfolio

### COMPUTER SKILLS/OTHER

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