HAOMING GAO

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EDUCATION

NEW YORK UNIVERSITY New York, NY
The Courant Institute of Mathematical Sciences
M.S. in Mathematics in Finance (expected-Dec 2022)

- ***Coursework:*** stochastic processes, OOP in Java, portfolio management and option pricing, Python numerical methods, market microstructure, Fama-French, risk management

RENMIN UNIVERSITY OF CHINA Beijing, China
B.A. in Applied Mathematics & B.E. in Economics (Sep 2017-Jun 2021)

- ***Coursework:*** partial differential equations, applied time series, probability theory, machine learning, data structures, econometrics, regression, backtesting, natural language processing

EXPERIENCE

Anzhi Capital (a long-short hedge fund with $1 billion AUM) Shanghai, China
Summer Intern, CTA Quantitative Research (Jul–Sep 2020)

- Built cron web-crawler to collect posts and comments about 20 futures on financial forum
- Trained the BERT model to encode texts and generate daily sentimental factor; predicted positive/negative sentiment with an out-sample accuracy of 77%
- Combined volume and price factor with sentimental factor as a timing strategy (put into real trading after parameter tuning), with rolling window back-testing Calmar ratio of 13.6

MSCI Securities (an index company) Beijing, China (Remote)
Quantitative Analyst Intern, Risk Management (Feb–Apr 2020)

- Priced the convertible bonds by finite difference method and built up convertible bonds index
- Implemented an improved-Markowitz portfolio optimization by estimating covariance matrix
- Delivered model's risk and performance analysis applying to A-share market, with annualized Sharpe ratio of 2.1

CITIC Securities (Top 2 Investment bank in China) Beijing, China
Strategy Research Intern, Quantitative Research (Nov 2019–Feb 2020)

- Created a portfolio-mimicking strategy for top holdings of mutual funds with annualized alpha of 1.2% over average funds' performance and analyzed Matthew effect of mutual funds
- Developed automated program to detect banner overweight, a timing signal by NLP method
- Estimated 900 billion RMB flowing into the A-share market in 2020 and completed the annual forecast report

Beijing Morningstone Technology Management Co. (SaaS/a hedge advisor) Beijing, China
Quantitative Analyst Intern, Research (Aug 2019–Nov 2019)

- Researched the commodity futures industry chains and established an inter-influenced model
- Tested contributors of 12 futures' volatility by quantifying factors and using multiple regression
- Employed and optimized ARIMA, e-GARCH, SVM, and LSTM to model commodity future price and predict expiration day basis, with numerical calculation as a benchmark

PROJECT

RENMIN UNIVERSITY OF CHINA Beijing, China
DDPG Model on HFT of Digital Currency (Fall 2019)-*Python*

- Implemented an automated crawler to collect 13 million minute-level trading samples of Bitcoin cash and derivatives on Ali-cloud server
- Studied and designed 20 high-frequency factors on rolling windows as input parameters
- Optimized recurrent neural networks to predict the future price and improved the deep deterministic policy gradient method to trade Bitcoins derivatives with leverage and hedging

COMPUTATIONAL SKILLS

Programming Languages: Python, C/C++, SQL, R, Stata, Linux, API of Bloomberg &Wind, Git