ZIYUAN ZHAO

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EDUCATION

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

- ***Expected Coursework:*** *derivative pricing, stochastic processes, data-driven models, time series analysis, machine learning*

UNIVERSITY OF MICHIGAN (Sep. 2019-Aug. 2021) Ann Arbor, MI
B.S. in Mathematics of Finance and Risk Management. Minor in Computer Science

- ***Coursework:*** *data mining, artificial intelligence, dynamic programming, probability and statistics, linear algebra*
- ***Honors: University Honor (2020), Outstanding Achievement in Mathematics Award (2021)***

RENMIN UNIVERSITY OF CHINA (Sep. 2016-Jun. 2019)
B.S. in Chemistry. Minor in Finance

EXPERIENCE

MOYI TECH (a fin-tech company that automates market research and data analysis) New York, NY
Quantitative Analyst Intern (Jul.2020-Aug.2021)

- Established factor pools for ETFs based on WorldQuant "101 Formulaic Alphas" paper and developed a feature selection framework by alpha-lens Python package
- Constructed ARMA model on Bitcoin by using ACF/PACF/AIC analysis, applied white noise test and build GARCH model to explain fat tail and volatility clustering
- Developed MMAC and Mean Reversion strategies on Bitcoin, achieving a Sharpe Ratio of 2.73% and max drawdown of 11.3% using data from 2018 to 2020
- Built up DCF model and Comparable Analysis model for company valuation and selected top/bottom stocks in different industries
- Wrote research report about manager skill methods in fund of fund and constructed Multifactor model based on Treynor-Mazuy model and Maximum Withdrawal Rate
- Recognized candlestick patterns by ta-lib package in Python and design trading strategies based on these signals

GALAXY SECURITY Beijing, China
Analyst Assistant Intern, Commercial Retail Industry (Dec.2018-Mar.2019)

- Generated in-depth research report of Amazon by analyzing development of various businesses and comparing Amazon with domestic online shopping platforms in China to evaluate Amazon's business outlook in China
- Created framework of "consumer industry observation", gathered and interpreted data in the consumer discretionary industry to forecast performance of stocks in different fields
- Modeled industry cycle of shopping centers, examined the current status of shopping centers in China, and predicted the development of shopping centers in China

INDEPENDENT PROJECTS

Mortgage-Backed Securities Products (Mar. 2020) (Python, VBA)

- Implemented prepayment model and mortgage cash flow calculation engine and performed impact analysis on MBS valuations and risks calculations based on collateral characteristics

Machine Learning Neural Network (Apr. 2020) (Python)

- Constructed Neural Network model to project 2-dimensional input samples onto a 3-dimensional hidden layer and classify with a 2-dimensional softmax output classifier

COMPUTATIONAL SKILLS/OTHER

Programming Languages: C++, Python, SQL, R, VBA, Java
Languages: Mandarin (native speaker), English (fluent)