

JIAHAO (JASON) ZHU

(332) 201-3724 ▪ jiahao.zhu@nyu.edu ▪ <https://www.linkedin.com/in/jiahao-jason-zhu/>

EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

M.S. in Mathematics in Finance (expected – Jan. 2020)

- **Coursework:** Factor Model, Portfolio Optimization, Monte Carlo, Market Impact, Stochastic Calculus & Equity Derivatives, Interest Rate Models, Curve Interpolation, Regularized Regression, Tree Based Classification & Regression, Clustering, PCA Analysis & Dimension Reduce

UNIVERSITY OF ILLINOIS

Urbana, IL

B.S. in Statistics, Minor in Mathematics (Aug. 2015 – Jan. 2018, top 3%)

- **Coursework:** Data Structure and Algorithms, OOP in Java, Probability and Statistics, Data Wrangling & Visualization, Time Series Analysis, Linear Algebra

EXPERIENCE

QED Alpha Capital Inc.

Jersey City, NJ

Quantitative Research Intern (May 2019 – Sep 2019)

- Reduced portfolio local drawdowns by detecting subgroups among U.S. equities that react differently to an existing trading model, using Gaussian Mixture Model and GUIDE (modified classification method based on CART)
- Transformed a regression type alpha model into regression tree structure using xgboost, customized objective function, implemented a hill climbing algorithm to tune model hyper-parameters based on rolling window performance, utilized GPU, and improved return in simulation by 60% in a 10-year period
- Researched on building a LSTM functional model with both main series input and auxiliary information input aiming to capture trend reversal

UNIVERSITY OF ILLINOIS MATH DEPT.

Urbana, IL

Data Mining Research Assistant (Apr. 2018 – Dec. 2018)

- Implemented web crawlers in Python to scrape online data, and built a web-based interactive visualization using R-Shiny to present high dimensional university admission data
- Performed logistic regression, SVM and tree-based models to forecast university admission results with an accuracy of 76% under cross-validation
- Presented this project at Joint Mathematics Meeting 2018 student research session

RELEVANT PROJECTS

Credit Spread Forecast Data Competition (Feb. 2018)

- Built a regression model to forecast monthly credit spread with stepwise selection based on VIF and adjusted R-square
- Improved the benchmark model by utilizing LASSO, Elasticnet and tree-based models for advanced feature selection, model robustness and accuracy

High Frequency Trading Data Wrangling (Java & Python, Dec. 2018)

- Cleaned 16 GB of binarily compressed high frequency trading data by removing noise trades based on Bollinger band, and adjusted price/shares based on corporate events
- Classified trade prints into buy/sell initiated orders using tick/quote test, back-tested an existing trading strategy, and tuned model hyper-parameter by generic search

Monte Carlo Simulation for Option Pricing (Java, Nov. 2018)

- Developed a distributed Monte Carlo simulator using Java middleware (ActiveMQ) under a client/server framework to price plain vanilla and Asian options using simulated stock paths
- Utilized GPU via OpenCL and variance reduction methods to improve simulation efficiency

SKILLS/CERTIFICATES

Programming Languages: Java (2+ years), Python (2+ years), R (1 year), C++(basic)

Certificates: CFA Level 1 Passed