

YIXUAN (JESSIE) ZHOU
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EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics in Finance (expected – Dec. 2019)

- **Coursework:** Java, Python, machine learning, derivative pricing and hedging, active portfolio management, interest rate & FX models, Monte Carlo simulation, stochastic calculus

WUHAN UNIVERSITY

Wuhan, China

B.S. in Mathematics & B.A. in Economics, GPA:3.92/4.00 (Sept. 2014 – Jun. 2018)

- **Coursework:** Black-Scholes & Greeks, Micro & macroeconomics, time series analysis, linear regression, GLM, statistics, numerical methods, OOP in C++, database

EXPERIENCE

FactSet Research Systems Inc. (Portware: Dept of Portfolio Mgmt. & Trading)

New York, NY

Summer Data Scientist Intern (Quant Research) (May 2019 – Aug. 2019)

- **Market impact model research:** applied OLS to build and select best market impact model of multi-day metaorders based on market illiquidity; researched on reversion phrase and implemented impact decay model; computed the fair price of the stocks based on the impact model to make execution decisions (Python)
- **Data cleansing:** Fetched large hedge funds' data and market data from a cloud server (SQL)

ChaiNext Fintech Ltd

Shenzhen, China

Quantitative Analyst Intern (May 2018 – Aug. 2018)

- **Index rotation strategy research:** implemented and back tested index rotation strategies with historical data of cryptocurrency market and analyzed the returns and P&L attribution (Python)
- **Technical indicator generation:** designed fear index of crypto market with volatility, market momentum, Bitcoin market cap share, sentiment analysis result and other factors

Redcat Asset management Co., Ltd

Shanghai, China

Quantitative Analyst Intern (Aug. 2017 – Apr. 2018)

- **High-frequency arbitrage strategy research:** constructed calendar spreads with Dickey Fuller test, developed and back tested Bollinger Band based pair trading strategy (C++)
- **Signal selection and high-frequency limit order book dynamics modeling:** built machine learning pipeline with Random Forrest and SVM, to predict mid-price movement with signals; performed cross validation and grid search for feature selection; applied SMOTE to resample the imbalanced data set (Python)
- **Tick data pre-processing:** identified and fixed data quality problems, automated daily descriptive statistical reports generation according to traders' demand (Python)

PROJECTS

NEW YORK UNIVERSITY

New York, NY

Capstone project: interpreting neural network output with alternative LRP (Oct 2019 –)

- Developed pipeline for layer-wise relevance backward propagation
- Researched on heatmaps produced by applying LRP on pre-trained LeNet and VGGNet

Short-term Course Projects

- **Option Pricing with Monte Carlo Simulation in Java:** Valued European and Asian options using variance reduction techniques to reduced MC errors and achieved faster convergence rate
- **MBS Modeling in Excel:** Solved OAS for a MBS by interpolating PSA and building pass-through; investigated rates sensitivity
- **Volatility Jumps detection in R:** Built ARMA-GARCH model to capture volatility in time series data and applied ICSS algorithm to detect jumps, determined threshold by MC simulation

COMPUTER SKILLS/OTHER

Programming Languages and other software: Python, JAVA, C++, R, MATLAB, SQL

Certificate: Bloomberg Market Concepts (BMC)