RUNKUN (VINCENT) XIE

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EDUCATION

Columbia University **Sep 2018 – Feb 2020**
Master of Arts in Mathematics of Finance, GPA: 3.92/4.00 New York, NY
- **Coursework**: Non-linear Option Pricing, Derivatives Trading, Fixed Income, Financial Risk Management, Deep Learning
- **Honors**: Davis Fellowship for Outstanding Academic Achievement

Central University of Finance and Economics **Sep 2014 – Jun 2018**
Bachelor of Economics in Financial Engineering, with Distinction, GPA: 3.87/4.00 Beijing, CN
- **Coursework**: Differential Equations, Multivariate Statistics, Optimization, Algorithms, Corporate Finance, Econometrics

University of Michigan **Jul 2016 – Aug 2016**
Summer Program in Quantitative Methods of Social Research, GPA: 4.00/4.00 Ann Arbor, MI
- **Coursework**: Advanced Time Series Analysis, Simultaneous Equation Models, Regression Analysis

EXPERIENCES

Wisdom Capital Asset Management **Nov 2019 – May 2020**
Quantitative Analyst Intern (Python, SQL, VBA) New York, NY
- **Data Analytics**: interacted with SQL database and processed price data of underlying assets using Python, built and maintained VBA models to generate price statistics and trading signals for traders automatically
- **Quant Trading**: backtested the Commodity Future Options trading strategy, simulated the strategy by trading futures options weekly (Iron Condors, Vertical Spreads, and Strangles), monitored and analyzed portfolio performance and risk

Huatai Securities (China's top 4 investment bank) **Jun 2019 – Aug 2019**
Quantitative Researcher Intern (Python, SQL) Beijing, CN
- **Strategy Development**: refined the company's Cyclical Asset Allocation Strategy (by investment timing, weight adjustment, and risk control), tested parameter sensitivity, and improved its Sharpe Ratio from 1.44 to 1.86
- **Quant Modeling**: extracted cyclical information from asset signals by MUSIC algorithm and Fourier Transform, synthesized asset signals and generated cycle factors on certain frequencies using SUMPLE algorithm
- **Machine Learning**: applied Random Forest to the Asset Allocation Strategy, estimated the non-linear relationship between the Year-Over-Year return of major assets and Cycle Factors, and increased prediction accuracy by 5%

China Galaxy Securities **Feb 2018 – Jun 2018**
Quantitative Researcher Intern (Python, SQL) Beijing, CN
- **Quant Development**: implemented a vectorized back-testing system for strategy development using Python OOP, built a market- and sector-neutral multi-factor strategy under Barra framework, and achieved 2.09 Sharpe Ratio
- **Quant Modeling**: extracted millions of data from database using SQL, generated factors using PCA, estimated factor return by Cross-sectional Regression and GARCH model, and optimized portfolio weights using Convex Optimization
- **Machine Learning**: applied a K-NN based outlier detection method to identify market manipulations

Jindian Investment **Jul 2017 - Sep 2017**
Quantitative Researcher Intern (Python, SQL) Beijing, CN
- **Quant Development**: built a for-loop back-testing system that interacted with SQL databases and WIND API using MATLAB, implemented trading strategies based on multi-factor selection model and dual thrust strategy
- **Strategy Development**: tested trading signals for stock selection and market timing, improved strategy performance by signal blending portfolio blending, tuned parameters based on various risk preferences, and yield a Sharpe Ratio of 1.75
- **Machine Learning**: applied and tested the performance of Support Vector Machine in the stock selection process

PROJECTS

Multi-digit Number Recognition using Deep Convolutional Neural Networks, *Columbia University* **Oct 2019 – Dec 2019**
- **Deep Learning**: built a 11-layer Convolutional Neural Networks under DistBelief framework to recognize multi-digit numbers from satellite imagery, applied regularization and data augmentation to boost the test accuracy to 86.02%
- **Cloud Computing**: Handled large image dataset on Google Could Platform using multiple GPUs

Application of Deep Learning in the Prediction of Stock Trend **Feb 2018 – May 2018**
- **Deep Learning**: applied Machine Learning models to stock indexes and index futures using high-frequency data
- **Strategy Development**: The LSTM high-frequency strategy achieved 1.38 Sharpe Ratio and outcompeted MLP models

SKILLS & INTERESTS

- **Programming Skills**: Python, C/C++, SQL, MATLAB, VBA
- **Data Science & Machine Learning Libraries**: NumPy, Pandas, SciPy, Matplotlib; Scikit-Learn, TensorFlow, PyTorch
- **Tools & Software:** Git; Linux; MySQL, MongoDB; Bloomberg, Capital IQ; Spark; Tableau; AWS
- **Certificates & Associations**: CFA Level II, FRM Level I; Quant Analyst at Columbia Quant Group
- **Interests**: Tennis, Jogging, Guitar, Gomoku