Andy Haoyu Guan

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TECHNICAL SKILLS

Programming & Tools: SQL, R, Python, Matlab & VBA, Tensorflow,PyTorch.
Certification: Python and Data structure ,Bloomberg Market Concept, CFA FRM level 1.

EDUCATION

M.S. Mathematical Finance - Boston University Aug. 2019 – Jan. 2021

- Coursework: Statistics, Programming (R, Python), Stochastic Methods of Asset Pricing, Fixed income, Blockchain, Machine learning.

B.A. Mathematics(Major) &B.A. Mathematics Finance(Double Degree) - Xiamen University Aug. 2015 – Jun. 2019

- Coursework: Python and Deep learning, Algorithm and data structure, Asset Pricing, Portfolio management, PDE, SDE, numerical algebra.

PROFESSIONAL EXPERIENCE

Huaxi Futures Chengdu, China
Quantitative Intern Aug. 2018 – Sep. 2018

- Exploring and analyzing market characteristics of apple and soybean futures and built a trend trading strategy.
- Transformed, cleaned and analyzed data using Python and SQL and achieved 40% return by creating trading strategy with backtesting based on Rbreaker and Boolean channel strategy.
- Built and established backtesting system using Python and Matlab to generate testing reports filled with factors like Sharp ratio. Adjusted and updated various trading algorithm parameters to optimize trading strategy.
- Compared backtesting results of different frequency data sets; found utlizing data with a frequency of 5s can allow best 60% return result.

Shenzhen Stock Exchange Shenzhen, China
Fixed Income Department Jun. 2017 – Jul. 2017

- Participated in creating fixed income products. Researched and analyzed data of various financial instruments in fixed income market, such as ABS, corporate bonds, CMBS.
- Analyzed and developed a model on interest rate and credit ratings via regression and classification models by Logistic Regression to identify current trends of Chinese fixed-income products acted in R and Excel and accuracy is about 60%.
- Devised various data visualizations via box plot, heat map and correlation matrix for CSi 300 index dataset for basic EDA and identifying correlation analysis. Predicted future price using Fama-Macbeth regression with 95% significance.
- Saved 70% of time on data analysis by establishing macros using Excel VBA to automate financial data processing and statistical analysis.

RESEARCH EXPERENCE

Black-Litterman Portfolios with Machine Learning derived Views Boston University
Machine Learning Reseacher Nov. 2019-Dec. 2019

- Adjusted and modified the Black-Litterman model, applied multiple machine learning classifiers (Logistic Regression, SVM, Naïve Bayes, Ensemble methods) to generate the market views of investors.
- Model achieved 70% accuracy and got 4% annual excess return during back testing process which is not worse than Mean-Variance model.

Investment Portfolio Case Competition organized by Cornell University Cornell University Feb.2020

- Developed a target-date funds product for retirement including model and fee structure, while accounting for the risk aversion cluster and tactical strategy.

Bad call of umpire and moneyline in MLB league Boston University
Team member Jan. 2020-May. 2020

- Built the data cleaning structure to deal with ten years data of the whole MLB league and generate the moneyline data and the BCR data for further analysis.
- Generated a new factor to explain the connection between moneyline and the BCR.

Deep Learning in Asset Pricing Boston University
Deep Learning Coder Mar. 2020-Apr. 2020

- Developed 3 different deep learning networks (FFN\RNN\GAN) by PyTorch and compared the performance of differnet models in Predictive and variation explaining ability.
- Our GAN neural network is constructed using the idea of SDF and GMM method.
- Discovered annual out of sample Sharpe Ratio of GAN is around 2.6 and twice as high as with the simple forecasting approach FFN.

ADDITIONAL INFORMATION

- **Languages:** Mandarin **Interests:** Reading, Anime, Sports