Lou **Jiashu**

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Education

CUHK(Chinese University of Hong kong)

HKSAR, China

M.S. in Mathematics — *2023 - 2024*

- Related courses: Computational mathematics, financial mathematics, game theory, financial quantitative analysis
- Expected to graduate in July 2024

SZU(Shenzhen University)

Guangdong, China

B.S. in Mathematics and Applied Mathematics(double major in finance) — *2019 - 2023*

- Related Courses: Data Structure and Algorithm (A+), Securities Investment (A+), Matlab Programming (A), Mathematical Modeling (A), Numerical Analysis (A), Deep Learning and Quantitative Trading (A), Machine Learning(A)

Publication

A Novel Deep Reinforcement Learning Based Automated Stock Trading System Using Cascaded LSTM Networks (Under Minor Revise)

Second Author

Expert System with Application (JCR Q1) — *2023*

- We proposes a Deep Reinforcement Learning (DRL) based stock trading system using Cascaded Long Short-Term Memory (CLSTM-PPO Model). The model uses two stages of LSTM networks to extract time-series features from daily stock data and train the agent. The model is tested on four stock market datasets from the US, China, India, and the UK. The model is compared with several benchmark models, including buy and hold indexes, PPO model with MLP policy, and some up-to-date models. The results show that the CLSTM-PPO Model we proposed outperforms the other models in cumulative returns, maximum earning rate, and average profitability per trade.
- Mainly responsible for building the trading environment and writing reinforcement learning code

Research Experience

Stock Market Sentiment Classification and Backtesting via Fine-tuned BERT

Graduation Project in SZU — *2023*

- This research explores how emotional factors affect quantitative trading based on natural language processing. It uses BERT model to analyze the sentiment of user comments from East Money stock bar, and combines it with Alpha191 model to predict the average price change for the next five days. It then uses the prediction as a signal to guide automatic trading. The paper shows that incorporating emotional factors can improve the performance of both the BERT model and the trading strategy, and discusses the advantages and disadvantages of this approach.

Research on gene regulation system via sparse optimization

Innovation and Entrepreneurship Training Program for College Students — *2022*

- This research compares different sparse optimization algorithms for inferring gene regulatory networks from the DREAM5 dataset. It also proposes a voting algorithm that combines multiple methods. It shows that using 20% of the network as prior knowledge can improve the parameter selection and prediction accuracy of the algorithms. The research claims that its voting algorithm outperforms the official DREAM5 results on three out of four datasets.

Work Experience

Shenzhen Yujin Private Securities Management Co., Ltd.

Shenzhen, China

Quantitative Strategy Intern — *July 2022 - September 2022*

- Use reinforcement learning to develop an automatic trading system, optimize the existing training code, and increase the training speed by more than 10 times; based on the TensorFlow framework, by modifying the reward function and model structure, Seeking to improve model stability and profitability
- Use incremental learning to update model parameters in real time, so that the model can be constructed in a timely manner using the latest data during real-time operation, allowing it to adapt without retraining the model. Latest market environment

Honors & Awards

2023 **Meritorious Winner**, COMAP's Mathematical Contest in Modeling

2022 **First Prize**, Greater Bay Area Financial Modeling Contest

Skills

Python, Familiar with Numpy, Pandas, Pytorch, TensorFlow