

Thesis: Apply Deep Learning On Financial Sentiment Analysis.

Abstract: Portfolio Investment has always been appealing to investors and researchers. In the past, people tend to use historical trading information of the securities to predict the return or manage the portfolio. Nowadays, several literature have been proved that the market sentiment could predict asset prices. Specifically, it has been shown that the stock market movement is related to financial news and social media events. Thus it becomes necessary to extract the sentiment of the financial news. We explicitly introduce the application of dictionary methods, traditional machine learning models and deep learning models on text classification. The experiment results show that the deep learning models, especially, the LSTM model performs best on text classification. Furthermore, we build daily rebalancing trading strategy by incorporating the sentiment extracted from the financial news articles. Most of the existing methods only consider the historical stock information without adding the sentiment factor. In the future, we propose to construct the trading model by adding the historical stock prices and sentiment factor together.

Committee:

- Professor Changhe Yuan, Mentor, Queens College
- Professor Tao Wang, Queens College
- Professor Theodore Brown Queens College

Outside member:

- Professor Chao Chen, Stony Brook University