Stock Market Prediction by Artificial Neural Network

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Stock market prediction is an very important and classic topic in financial economics. A good prediction of a stock's future movement can provide insight about the market behavior over time, and then bring significant profit. With the increasingly computational power of the computer, machine learning and deep learning techniques become efficient approaches to solve this problem. The goal of this project is to layout deep investment techniques in financial markets using artificial neural networks (e.g. deep learning models). Stock market prediction always involve a variety of data which is difficult to design an ideal economic model. Deep learning models are able to exploit potentially non-linear patterns in such data which can help prediction. We plan to use the data from Yahoo finance, and recurrent neural networks (RNNs) can be applied to predict stock market movement because the stock market data can be considered as time-series data. RNN is one type of artificial neural networks that take advantages of the the sequential nature of time-series data. Some other traditional methods will also be implemented as baseline models.

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