Stock Prediction using Neural Networks

CMPE 295A - Project Abstract

by

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ABSTRACT

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The Stock market has been running on volatility and extreme fluctuation due to influences from many external factors. The sentiment of the market, the health of each industry along with the overall economy are some of the big factors that can help predict some of the fluctuations. Although there have been many attempts at stock price predictions in the past, the time series stock market data combined with the aforementioned factors can give a good indication of problems that can be solved with modern machine learning techniques.

Traditional applications of deep learning include speech recognition and image classification within which neural networks have proved their capability in learning to decode non-linear mappings between inputs and outputs. Utilizing such modern techniques to create a model that predicts the future of the stock market can result in increased customer confidence in the system, indicating increased stock purchases over time. Combining stock market data along with the sentiment analysis data from news blogs and social media can create a holistic view of the market movement.

In this project, we propose to forecast future movements in the stocks by leveraging Neural networks and Deep learning techniques. We try to present a solution that can overcome the naive estimator effect and thus precisely estimating the next gradient change, which is one of the biggest challenges in predicting the stocks.