

Stockalyzer

Stock Price Trend Forecasting using Neural Network

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Project Description

Major financial firms like JP Morgan and Goldman Sachs have been hiring quantitative traders for years to build predictive models on past market data.

They have no incentive to share it with us, so our Stockalyzer is aimed at incorporating into financial computational model sentiment analysis on company opinions and multiple past stock prices and projecting future stock trends.

Prior Work

Trading analysts at financial corporations have developed multiple probabilistic models to maximize gains.

Data scientists and computer science learners are also motivated to apply applying machine learning models to project trends in stock market using various approaches like Q-learning, Additive model, Neural Network, Support Vector Machines, etc.

Datasets

We have taken Daily Stock Market Data for 500 companies of S&P 500 Market since the companies came to existence

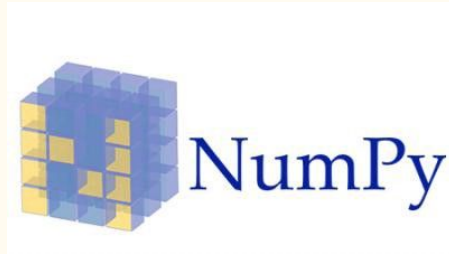
The base features in our dataset are: Open, High, Low, Close, Volume, Adjusted Close and S&P Index for each entity

Users' tweets about companies will be collected and appended as a new feature to the training dataset

Proposed Work

1. Preprocessing & Cleaning
2. Feature Extraction
3. Twitter Sentiment Analysis
4. Data Normalization
5. Model Construction
6. Training & Testing Model
7. Visualization & Analysis

Libraries & Tools



Model Evaluation

Once we constructed the model and have all the network variables stored in a logging file, we will use that to validate on a different set of data. Model parameters like learning rate, batch size, epochs will be experimented with different figures to adjust the model to be more efficient.

Q&A