Stock Prediction

Background

There are three forces that drive the stock market:

1. <u>Fundamental factors</u> drive stock prices based on a company's earnings and profitability from producing and selling goods and services.

2. <u>Technical factors</u> relate to a stock's price history in the market pertaining to chart patterns, momentum, and behavioral factors of traders and investors. Technical factors include:

- Inflation
- The economic strength of the market and peers
- Substitutes
- Incidental transactions
- Demographics
- Trends
- Liquidity
- News

3. <u>Market sentiment</u> refers to the psychology of market participants.

This project will use Market Sentiment and Technical factors listed below to predict the stock prices of Chevron Corporation (CVX):

- stock price history (Quandl API)
- inflation rate (https://www.statbureau.org/en/united-states/inflation-tables)
- market sentiment (Twitter API) Vader sentiment polarity score   **OR/AND**
- news (NYTimesArticleAPI) score based on positive and negative words in the articles.

A subset(1 month) of the sentiment and news data is available for download without a subscription from Quandl https://www.quandl.com/databases/NS1/data

Client

Investors who are interested in the short-term estimates of stock prices.

Deliverables

- iPython notebook with the code.
- A report containing the Data Analysis, Statistical models, and results.
- PowerPoint presentation.