

# CS545 Machine Learning

## Stock market prediction based on twitter posts by influential personalities

### Project Proposal

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The project our team is going to implement is to do with finance and stock predictions, one of the main reasons for choosing the stock market is the vast amount of data available and secondly we would like to see how we could use machine learning to predict the fluctuation of the entire market or a particular stocks based on tweets made by influential personalities. Not too long ago during the rise of cryptocurrencies Charlie Lee creator of Litecoin tweeted to all Litecoin holders that these were good times and one should be prepared for and to expect the coin value to fall to as low as \$20, this tweet caused a stir in the market causing the coin to drop hundreds of dollars in in matter of no time, however when he tweeted about some of the new security features and robustness of the software we saw a spike in the coin price. Another example is President Trump tweeting on increasing import duty on Chinese products, we saw a frenzy in the markets. In today's world where information is readily available and at your fingertips, we think and believe that the paradigm of how stocks rise and fall based on information has changed in a way where we can use machine learning to use available data to decide if the outcome will cause a positive or negative impact.

#### Technical Information:

Language: Python

Algorithms: Naïve Bayes, Neural Networks, Logistic Regression

Libraries: SentimentAnalyzer, numpy, pandas, NaiveBayesClassifier, subjectivity, tweepy, Treeinterpreter and will add as required

API: twitterAPI, stocksAPI from rapidAPI

Datasets: INTEL stock price, INTEL tweets, TESLA stock price, TESLA tweets

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