

# DSO 510: Business Analytics Project

## Group Members:

Suwara Thianrungsot ([thianrun@usc.edu](mailto:thianrun@usc.edu))

En-Ning Chiang ([enningc@usc.edu](mailto:enningc@usc.edu))

Yao Xiao ([yxiao243@usc.edu](mailto:yxiao243@usc.edu))

Benjamin Zhao ([bjzhao@usc.edu](mailto:bjzhao@usc.edu))

Mridula Singhal ([mridulas@usc.edu](mailto:mridulas@usc.edu))

Himani Desai ([himanid@usc.edu](mailto:himanid@usc.edu))

## Step 1: Data Cleaning & Retrieval of Data from yahoo finance

- Notebook name: 1-data\_cleaning.ipynb
- Input file: stockerbot-export.csv
- Output file: Error.csv, stock\_price.csv, combined\_data.csv, stockerbot.csv

## Step 2: Find day-to-day percentage change of stock prices and categorize the source.

- Notebook name: 2-stock\_price\_change.ipynb
- Input file: combined\_data.csv
- Output file: stock\_data.csv

## Step 3: Exploratory Data Analysis(EDA)

- Notebook name: 3-EDA.ipynb
- Input file: stock\_data.csv, stockerbot.csv
- Output file: final\_data.csv

## Step 4: Analysis

- Notebook name: 4-Analysis.ipynb
- Input file: final\_data.csv

**Brief Synopsis:**

For our project, we have chosen to analyze whether Twitter mentions have an impact on stock prices. To do this, we found an API that tracks stocks and cryptocurrencies on Twitter via stock name and symbol mentions. We counted totals for what stocks appeared on the tweet tracker and compared their stock performance over the period in which the tweets were tracked (7/6/2018 - 7/18/2018) to how many mentions they received over the same period. Additionally, the tweet tracker tracked what the source of the tweet was (Individual, News Source, Organization), so we analyzed whether the number of tweets from a particular source had an impact on stock performance.

Overall, the tweet tracker tracked 396 different stocks with companies such as Google and Apple being big companies mentioned. Sources for the tweets include independent tweeters like StockTwits, organizations like TheStreet, and news agencies such as ConsumerFeed. We tracked the day-to-day change in stock price for the 396 stocks during the period in which the tweets were tracked (7/6/2018 - 7/18/2018) to determine whether Twitter mentions had an impact on stock prices. According to our analysis, the number of Twitter posts does influence stock prices. Additionally, Twitter posts by organizations also influence stock prices. However, news agencies and individual Twitter posts do not appear to influence stock prices.