

## Progress made thus far:

So far, we have completed what we believe to be the hardest part of the project - creating and training the sentiment analyzer and the testing model. We first ran the Vader SentimentAnalyzer on a Kaggle Dataset to use as a benchmark. Its F1 score came out to be 0.40, so we wanted to make sure that the analyzer that we create beats this score. When we used a limit of 200 out of the +5000 columns in the Kaggle Dataset, its F1 score was 0.475. We have tried to run it on the entire set and got an F1 score of 0.54! We probably will not be running it on a dataset that big again since it took a very long time, and crashed multiple times before a successful run.

```
In [9]: 1 from sklearn.metrics import precision_recall_fscore_support
        2
        3 #(precision, recall, F1, support = None)
        4 precision_recall_fscore_support(y_true, predicted, average='micro')

Out[9]: (0.5418464193270061, 0.5418464193270061, 0.5418464193270061, None)
```

## Remaining tasks:

- Connect to Twitter API to test model on real-time data
- Figure out how to filter tweets based on a stock ticker that the user inputs
- Run the test model created on these tweets and find if the sentiment regarding the particular stock is positive or negative and if the user should buy/sell respectively
- Verify the output of the model (will have to establish ground truths ourselves)

## Challenges/issues (being) faced:

- Training/testing Kaggle Dataset was very large, causing the program to crash multiple times
- Precision/Recall/F1\_score are all turning out to be the same number on each run. We need to figure out if this is accurate.