Classifying Positive and Negative Tweets

Flatiron Phase 4 Project
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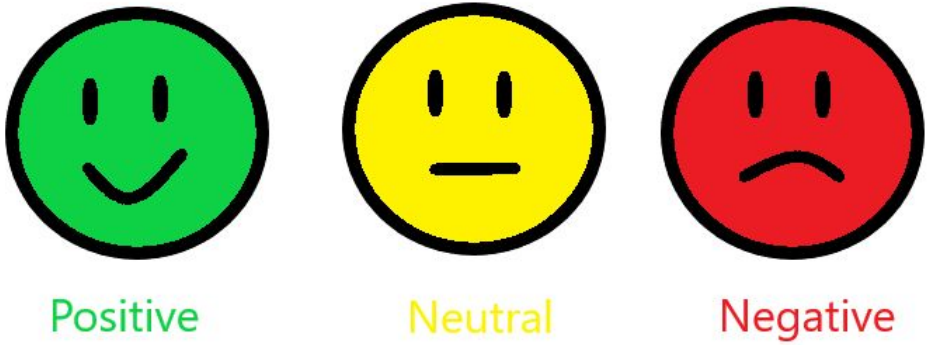
Presented February 13th

Business Problem

- Analyses the text of tweets in order to predict what tweets are positive or negative for better marketing purposes for Twitter.

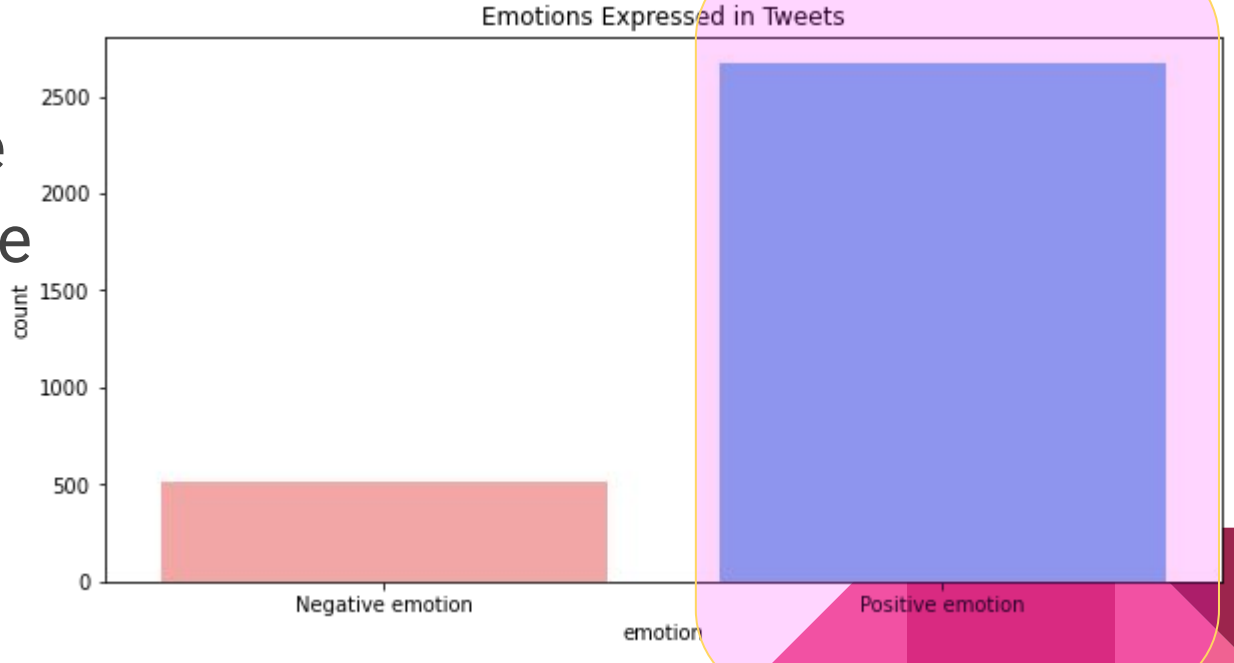
Data



- The tweet data is from CrowdFlower via data.world.
- About 9,000 records
  - Including emotion expressed in the tweet, the tweet itself and the device that the emotion is directed towards.

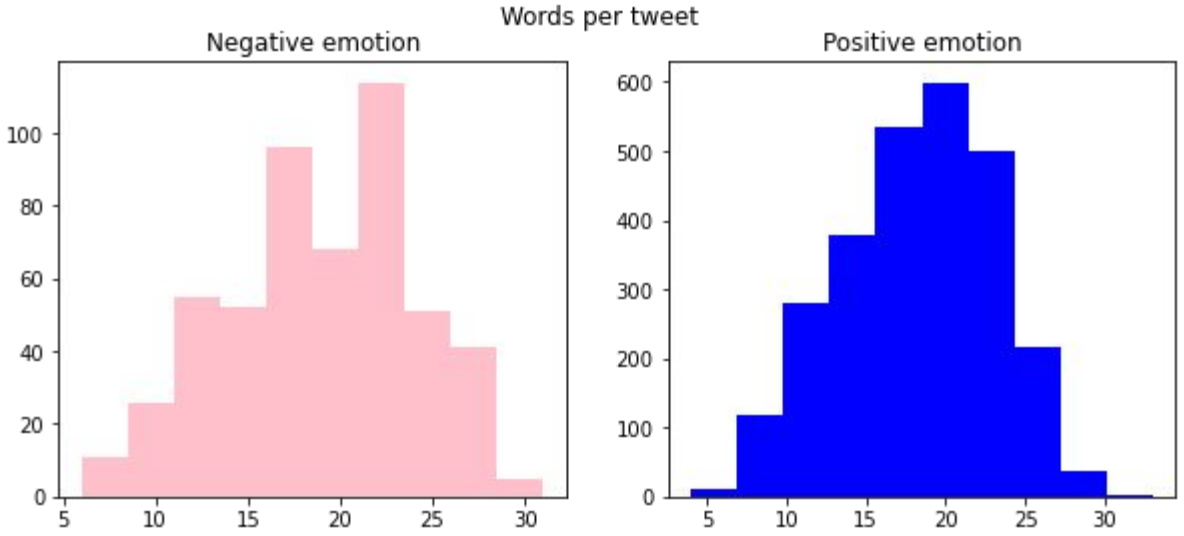
Focusing on only Positive and Negative

- 83% Positive
- 16% Negative



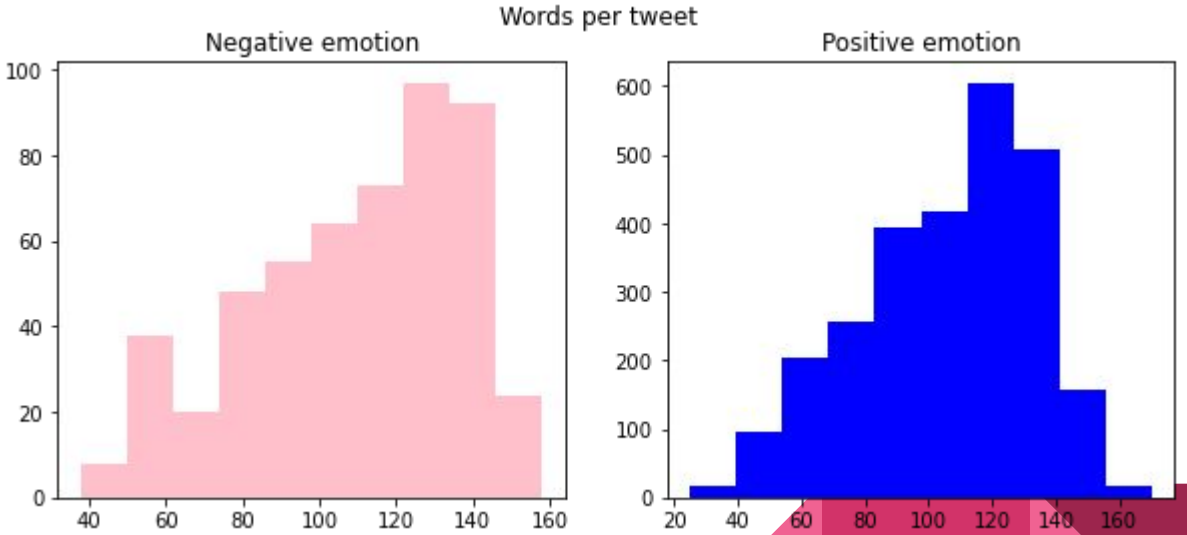
Words per Tweet

- Same average of words per tweet at 18.

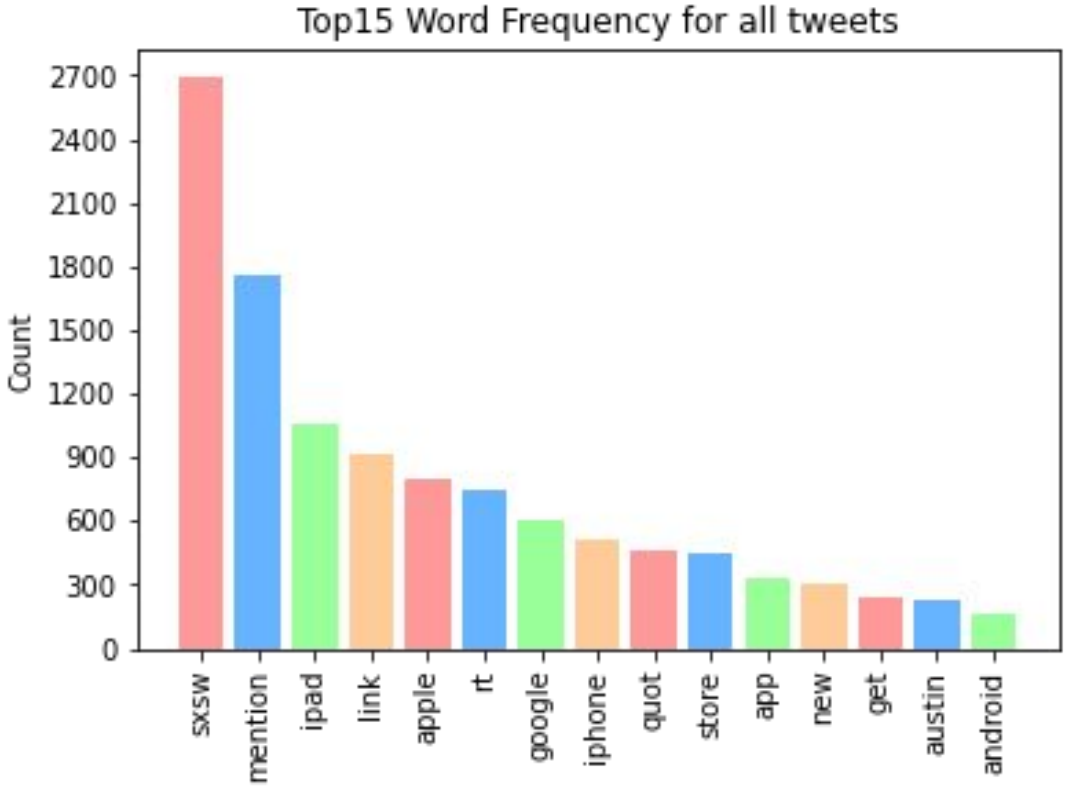


Review Length per Tweet

- Similar review length per tweet. 108 per negative and 105 per positive.



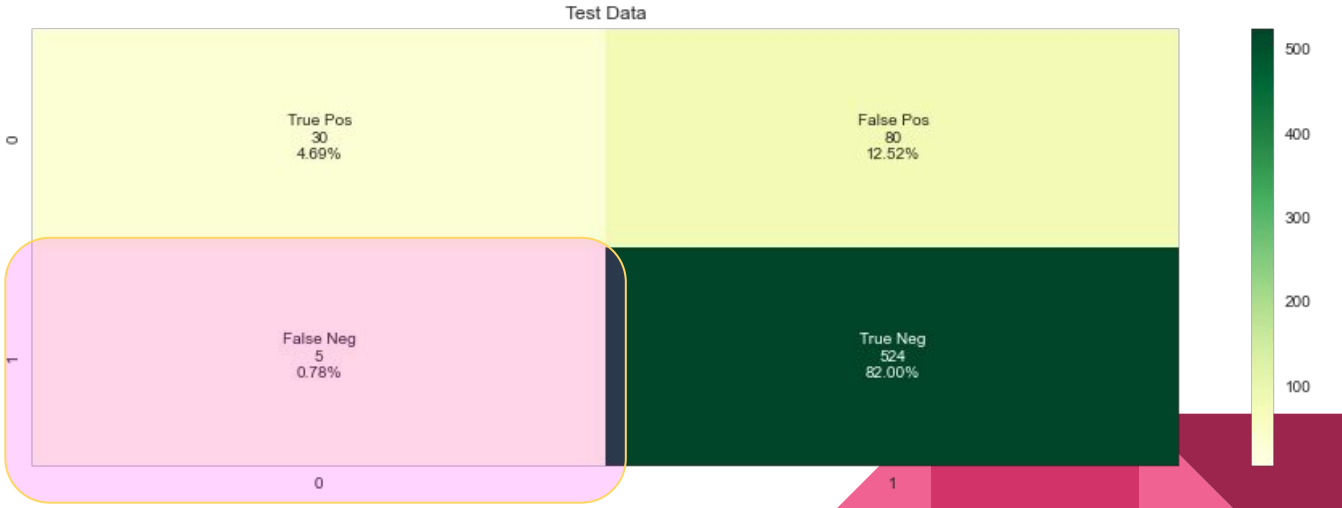
Most Frequent Words Across the Tweets



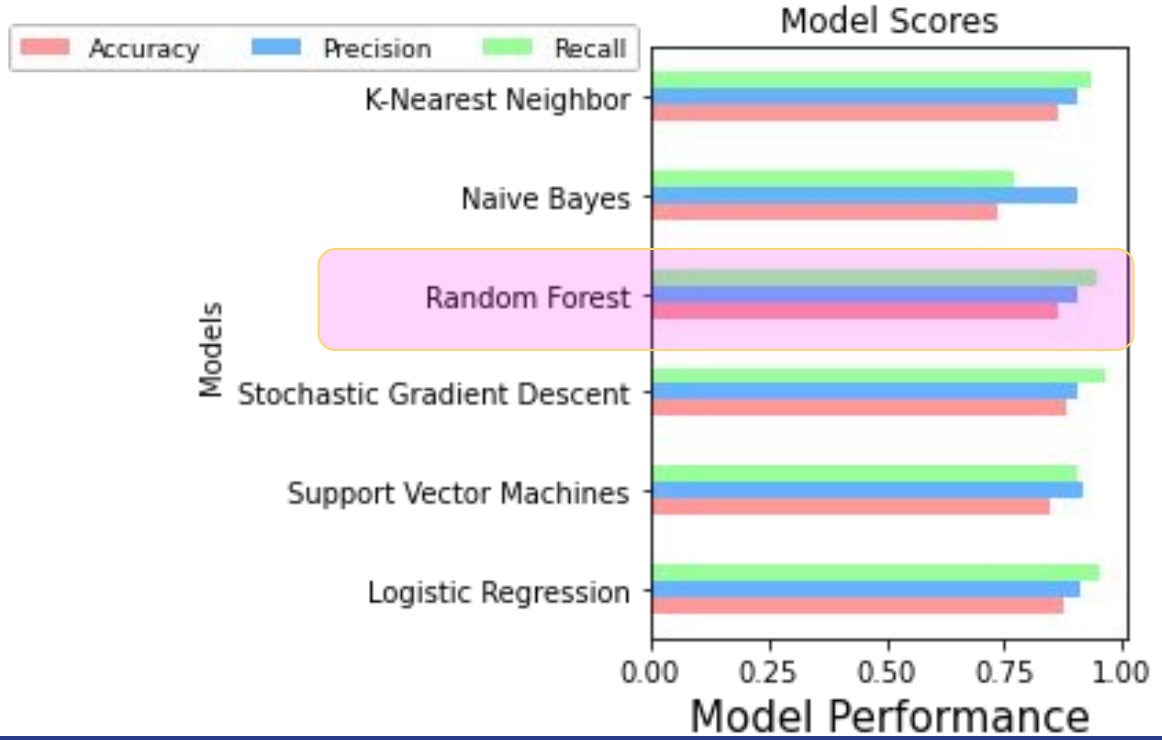
- Sxsw, mention, ipad, and link were the most commonly used words

Falsely Reported Customers

- For the best model: .78% of the time tweets were falsely reported as ‘negative’ when-they were actually positive

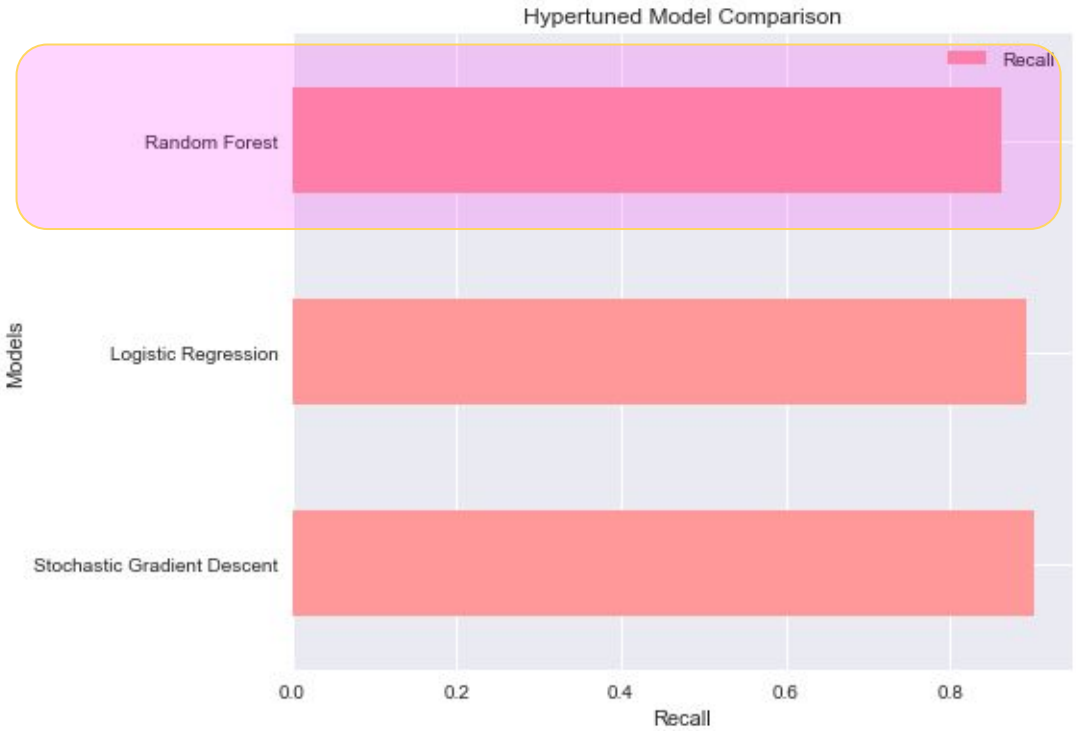


Best model to utilize



- Many models were performed upon the data to find the ones that were initially best at finding the positive tweets.

Evaluating models after Improving



- The model that performed best for the data in terms of most positive predictions was the Random Forest model.

In conclusion

- I would recommend that Twitter can use this Random Forest model in sorting through the massive amounts of tweets sent everyday in order to make their workflow easier, the marketing more targeted depending on the times in which they recieve more negative tweets than others, and this will lead to a better understanding of the emotions of people when they are tweeting about different devices and products.

Next Steps

- Utilizing multi class classification for a ‘neutral’ emotion
- Attempt to code correctly sarcastic or ironic tweets
- Utilizing other vectorizers other than countvectorizer such as tfidfvectorizer.
- Hypertuning other models

Thank you for your time

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***Made with word cloud in Python**