Case Study: Product Sentiment Analysis using Twitter Data

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HELLO!

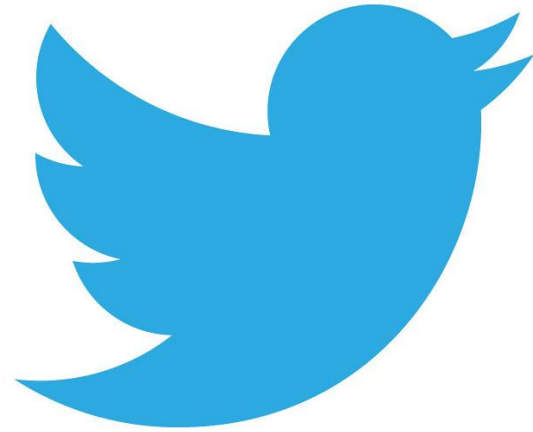I am the lead data analyst assigned to this case.

Passionate about how social media can drive decision-making.

Goal: Classify Twitter Data by Emotion

Reasons Why:

- 192 million users worldwide*

- Instant and on ground feedback

- Powerful communication tool

- Can help guide future business considerations

*Source 1 in appendix

The Data

8,936 Tweets

2 Companies Represented

data.world

Companies Represented

Breakdown

	Positive Tweets	Negative Tweets	No Emotion
Apple	1949	388	65
Google	723	131	26
No Specific Brand	306	51	5297

Word Clouds For Apple

Common Words of each Cloud: Apple, iPad, iPhone, app, store, Austin

Word Clouds For Google

Positive Tweets | Negative Tweets

Common Words of each Cloud: Google, android, app, launch, Circle, social, network, major, today
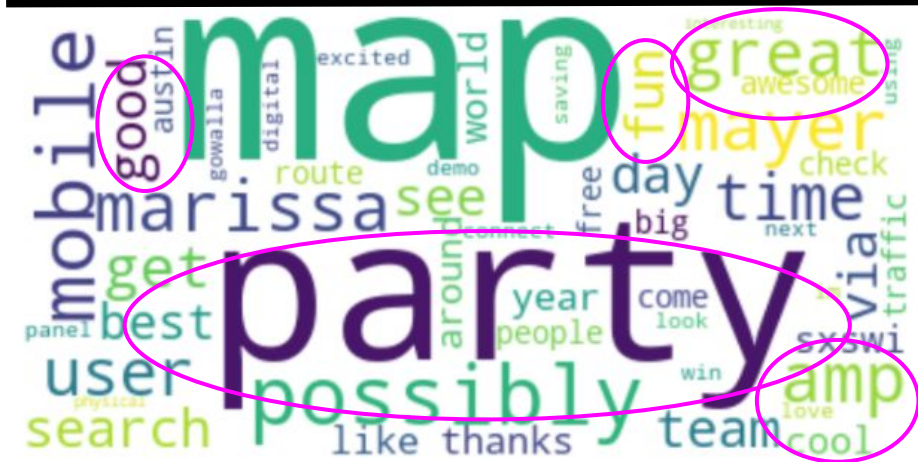
Models and Scores

4 Models, used F1-score and Accuracy to select best.

Models and Scores

Classifier	Initial F1 Score	Initial Accuracy	Final F1 Score	Final Accuracy
Random Forest	0.59	0.78	0.73	0.85
XG Booster	0.63	0.88	0.75	0.89
Logistic Regression	0.75	0.90	0.77	0.89
Support Vector Machine	0.66	0.89	0.78	0.90

Recommendations

- Companies can use Sentiment Analysis to better pick up on dissatisfying aspects of product releases
- Sentiment Analysis can also signal what went really well for future events
- Implementation of Sentiment Analysis of tweets into part of decision making.

Reminder:

Only 20% of Americans have a Twitter account, 63% of age range is from 35-65. Twitter analysis is not indicative of whole consumer base and should not be the only data pulled in as product feedback.

Future Work

- Explore different ways of preprocessing data and see if it lends to different results.
- Stack models together and see if they lend to a stronger, overall model.
- Attempt different types of additional models, such as keras.

Thank You

Thank you for listening!

Special thanks:

Fellow Flatiron cohort members

Cohort Lead: Abhineet Kulkarni

Educational Coach: Dara Paoletti

Sources

Source 1: Twitter Statistics

Data Source: data.world