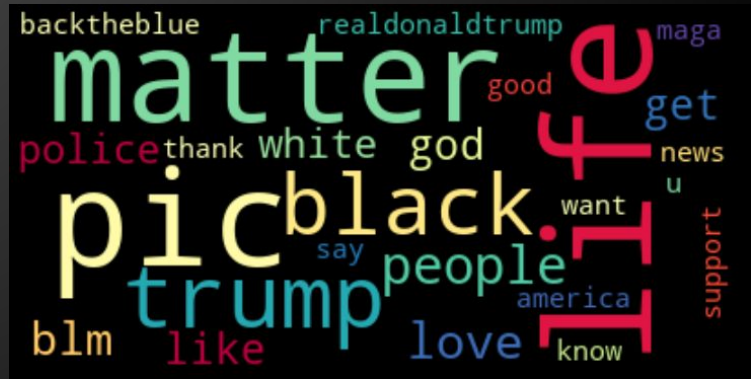
# #ALL LIVES MATTER:

## A Twitter Sentiment Analysis Using NLP

# Motivation

#AllLivesMatter is generally thought to be a critique or counter to the #BlackLivesMatter movement. Furthermore, there is a general misalignment and misunderstanding of the #AllLivesMatter movement. This project soughts to clarify and characterize this platform using NLP and *Vader* sentiment analysis of Twitter tweets with the hashtag #AllLivesMatter.

Positive



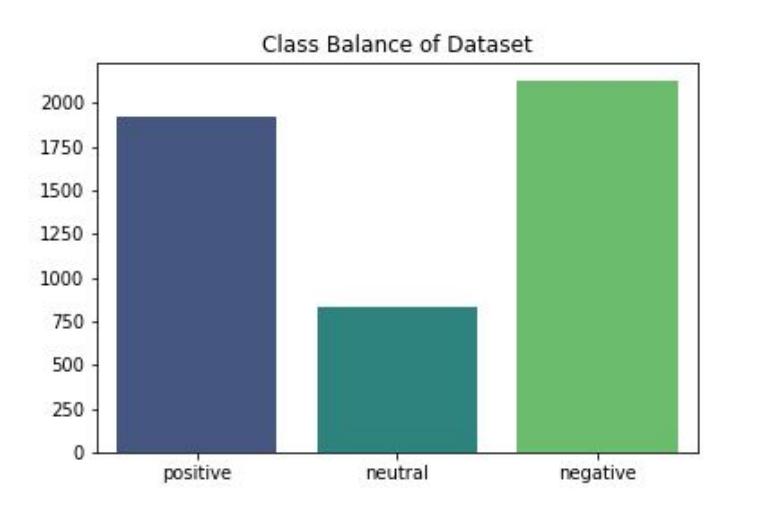
# Data Process Timeline

1. Webscraped 7,136 tweets that contained the #alllivesmatter hashtag from all users in a 26 hour timespan from Twitter. Used 4,181 tweets in English for our analysis.
2. Used *Vader* sentiment analysis scores to gauge the sentiment of those tweets as '*positive*', '*neutral*', or '*negative.*'
3. Tokenized, removed stop words, lemmatized, vectorized training, testing, and validation sets for classification, and evaluation.
4. Conducted EDA to clarify and characterize the platform.
5. Tested several models that classified the sentiment of 250 tweets.
6. Discussion of key takeaways and next steps.

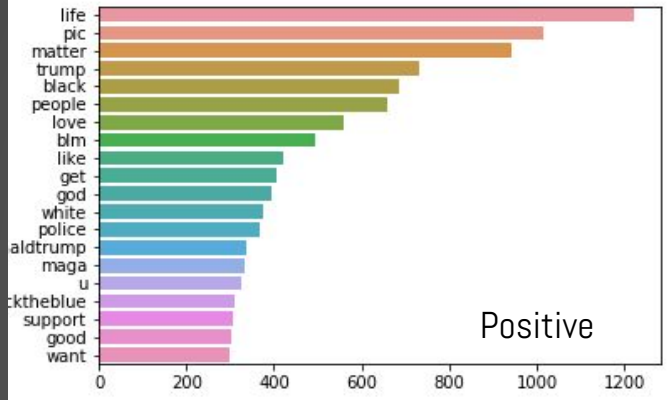
# Vader sentiment scores

1. Numeric compound score from -1 to 1
2. -1 extremely negative, +1 extremely positive
3. Up to user to interpret the thresholds for neutral (-.05 to .05, if applicable)

## Classes



# Word Frequency by Sentiment




Unique Words in Each Class:

Pos: love, god, support, thank, like, backtheblue, know

Neu: right, news, teaparty, instagram, breaking

Neg: racist, terrorist, hate, facebook, stop, news

Common words:
status, trump, black, police, blm, pic, realdonaldtrump, white

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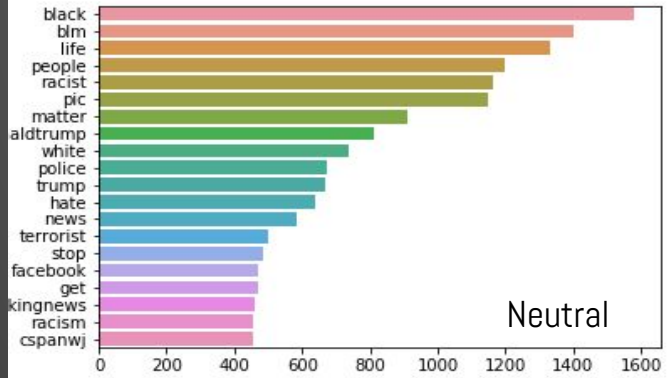
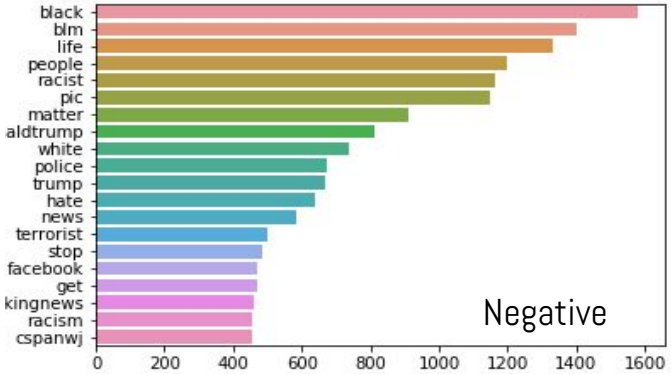
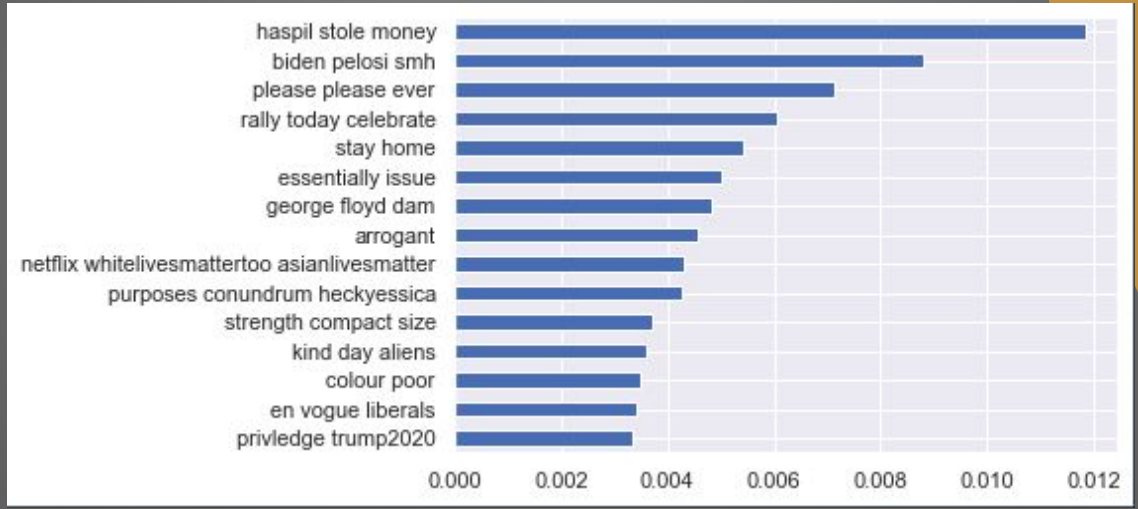


# Feature Importance in Random Forest




Trigrams/bigrams were most important predictors

pyLDAvis

# Predicting the Classes


Accuracy= 43.0%
F1 Score= 43.3%

Accuracy= 87.3%
F1 Score= 87.6%

Accuracy= 89.5%
F1 Score = 89.4%

Accuracy= 91.0%
F1 Score= 90.9%

# Future Steps

- Scrape more tweets on different days to ensure better sample
- Conduct surveys rather than analyze tweets


neutral

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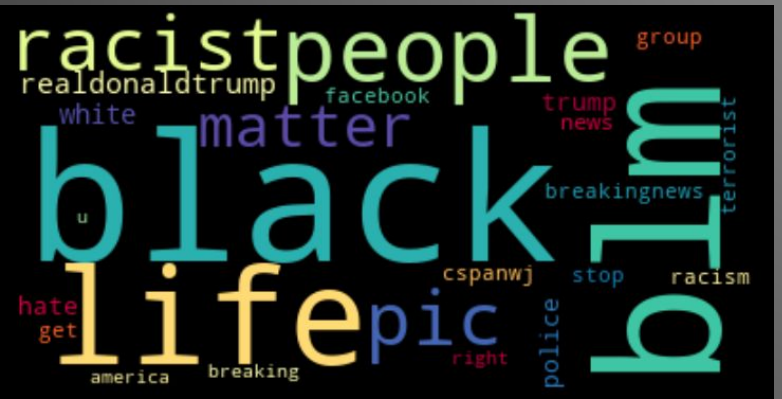
negative




- Users often have other topics in tweets with multiple hashtags
- NLP on #BlackLivesMatter and #BlueLivesMatter

# Conclusion

- Common words appearing across all sentiments indicate varied opinions across the platform towards certain subjects
- Negative words appear more frequently
- Polarized tweets.

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# Social Case

- #AllLivesMatter is criticized to be in denial of the African-American experience. Positive sentiment show it supports *God*, *love*, and *backtheblue.* There is neutral sentiment towards the *right*, *teaparty*, and *news*. Common words that appear across all sentiments such as *Trump*, *police*, *people*, *white*, *black* tell us it is an adversarial and Conservative/Nationalist platform with polarized views, very Republican in nature. Some practical forward steps should include being more aware of our political landscape, respecting different viewpoints, and non-violent means of protest/expression.

# Thank you!
# Questions?

Presentation slide theme by www.Slidesgo.com
https://github.com/halujeff5/AllLivesMatter-Project