Trump Tweet Semantics Report

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2. Introduction

This project revolves around analysing Donald Trump's twitter in various ways to provide interesting insights to his narrative.

Analysis methods include:

- Frequency Distribution
- Word Clouds
- Sentiment Analysis
- Tweet Generation

These methods will be presented as a web page via PonyORM

2.1. Background

I was interested analyzing Trump's tweets for semantics due to his controversial nature. It would be interesting to see, given what the media often say about him, if he truly is a bad/negative person.

2.2. Aim

The point of this project will be to perform various types of analysis on the language used in Trump's tweet to see if any interesting trends arise.

2.3. Objectives

- 1. Perform frequency distribution on variable length phrases
- 2. Render word clouds of phrases
- 3. Analyse whole tweets for semantics

3. Literature Review

3.1. Guide (To-Do)

- Technology Justifications
- Background Reading
- Justify using anything
- Be critical of decisions/guides/opinions

I decided to use Python as it's my strongest language, plus it's flexibility across platforms and level/variety of API support makes it an obvious choice.

I originally planned to use Twitter's API via Twitter Search¹, but I couldn't use it due to being unable to apply for a Twitter Developer Account. I instead opted for someone else's collected tweets at Trump Twitter Archive². The export format wasn't great, as you had to wait a while for the page to compile all the tweets into the correct format (When it would be useful to have it precompiled) and the page doesn't actually give you a JSON file, just a text output in JSON format, that you have to slowly copy and paste into a file and use programs to format the JSON into readable format.

I saw guides such as Basic Binary Sentiment Analysis using NLTK³, Text Classification using NLTK⁴ and Creating a Twtter Sentiment Analysis program using NLTK's Naive Bayes Classifier⁵ using NLTK's Naive Bayes Classifier, but they

¹https://github.com/ckoepp/TwitterSearch

²http://www.trumptwitterarchive.com/archive

 $^{^3 \}rm https://towards datascience.com/basic-binary-sentiment-analysis-using-nltk-c94ba17ae386$

 $^{^4 {\}it https://pythonprogramming.net/text-classification-nltk-tutorial/}$

 $^{^5}$ https://towardsdatascience.com/creating-the-twitter-sentiment-analysis-program-in-python-with-naive-bayes-classification-672e5589a7ed

used pre-processed data meaning I can't use them for my tweets. This guide⁶ used Google's Natural Language API to perform Sentiment Analysis but this method required internet access, and wasn't particularly fast.

Eventually, I fell upon this article⁷ which used TextBlob to perform sentiment analysis instead. TextBlob is a simplified text processing library for Python, and provides a simple API for performing Natural Language Processing tasks, such as speech tagging, noun extraction, classification, translation and, most importantly, sentiment analysis.

4. Parsing

I used Python's JSON library to load the .json file into the program as a dict.

5. Tweet Cleaner

I removed non-alphabetical characters from the tweet.

6. Sentiment Scoring

I used TextBlob to retrieve a sentiment score

7. Sentiment Classification

I decided to choose rather narrow ranges for each sentiment class.

- Less than -0.25 =Negative
- Between +0.25 and -0.25 = Neutral
- More than +0.25 = Positive

 $^{^6 \}rm https://www.freecodecamp.org/news/how-to-make-your-own-sentiment-analyzer-using-python-and-googles-natural-language-api-9e91e1c493e/$

⁷https://www.geeksforgeeks.org/twitter-sentiment-analysis-using-python/

8. Word Cloud

```
Here is a word cloud I created using the Python library wordcloud.
    looking forward to being nothing to do with for the people of
     - think like a in the history of will be going will be going to you to all of
thank you for your we will make america
                                                                                the history of the times
   is one of the keep up the great the new york times
my thoughts and prayers Will be interviewed on out and vote for the my thoughts and prayers will be interviewed on out and vote for the my thoughts and prayers will be on fox
resident of the united the history of our to all of the we are going to the great people of it is time to the great state will be a great had a great time to the great state to the united states i am pleased to the is a great while at the same to the great state will be a great had a great time to the great state will be a great had a great time to the united states i am pleased to the is a great you to the history of our country.

Was my great honor will be on @foxandfriends the great state will be on @foxandfriends to the fake news is
    the fake news is
 making america great again! i will be on and all of the
                                               i will be interviewed
in the great state 1 W1.
                                                                    to make america great
                                                                      get out and vote
             the great state of
                              be interviewed on @foxandfriends men and women of
it was an honor be interviewed on @foxandfriends men and wom i am the only one of the most what is going on of the united states one of the worst
 i had a great make america great the fact that the when it comes to
                                                                                     again!
                                                                            viewed by on my
                                                  will be interviewed be be on @foxandfriends at
 will make america great
       my complete and total my great honor to for all of the has my complete and think like a billionaire has my complete and he will be a was an honor to he will be a with solution am going to i look forward to america great again! i with all of the
 doing a great job
   i am going to i look forward to america great again! https://t.co/u25yi5t7e8 - thi
                                           - think like a failing new york times
      art of the deal
 it will be a make america great again
                                                                             great honor to welcome
                                     thank you for the
     the art of the united states of look forward to being it was my great
                                                                                     and prayers are with
               think like a champion one or the best thank you to all was my thank you to all of the united states,
                                                                           one of the best all talk and no
 thoughts and prayers are today, it was my
                                                                                                                      Figure
```

1 - WordCloud of phrases of length 4.

9. Frequency Distribution

I used NLTK to look at the most common words and phrases of different lengths.

10. Web Application Presentation

I used PonyORM to...

11. Evaluation

Results and findings

12. Conclusion

Footnotes