

Classifying the Bias and Message of Political Social Media Posts

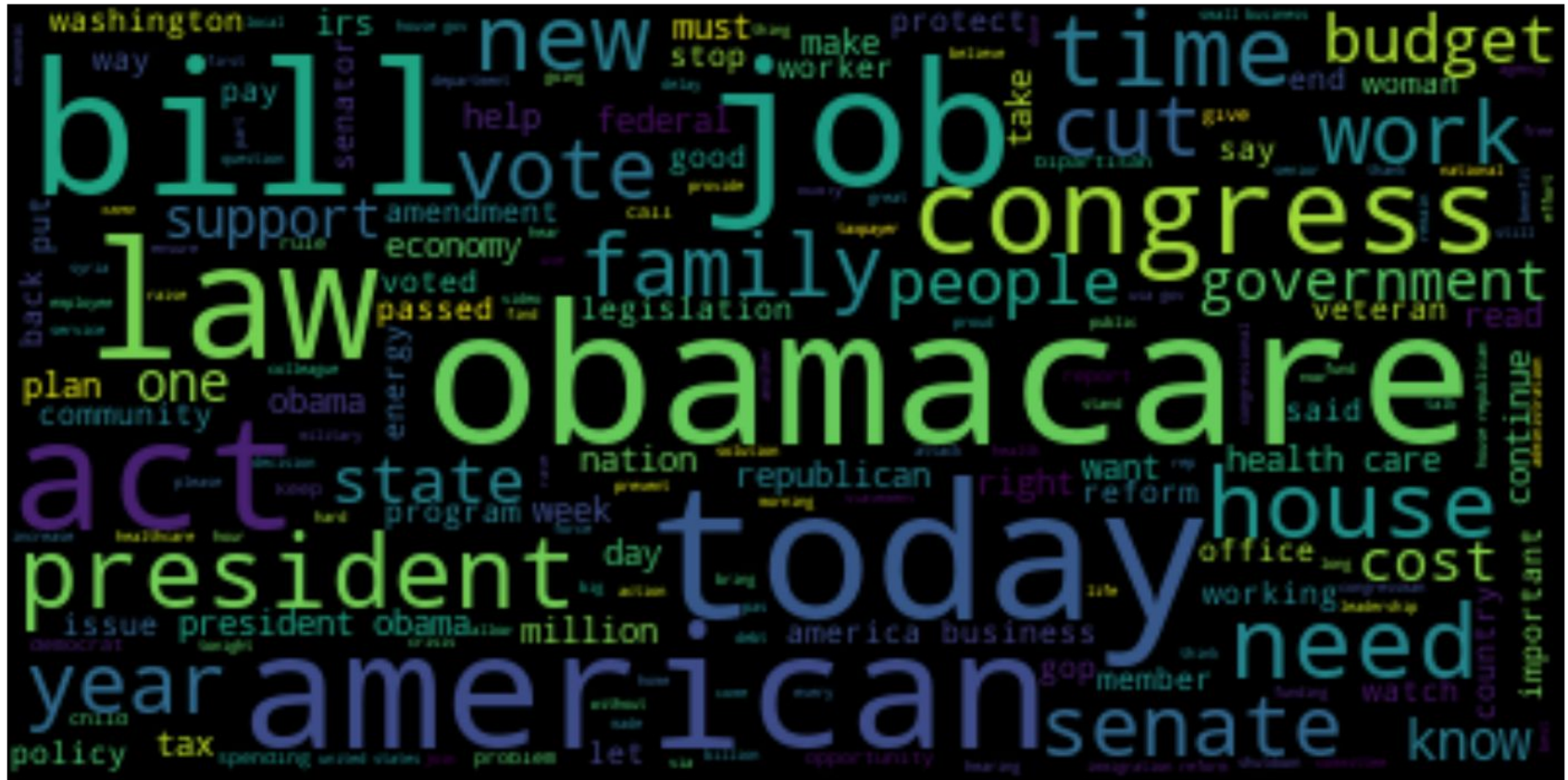


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November 2020

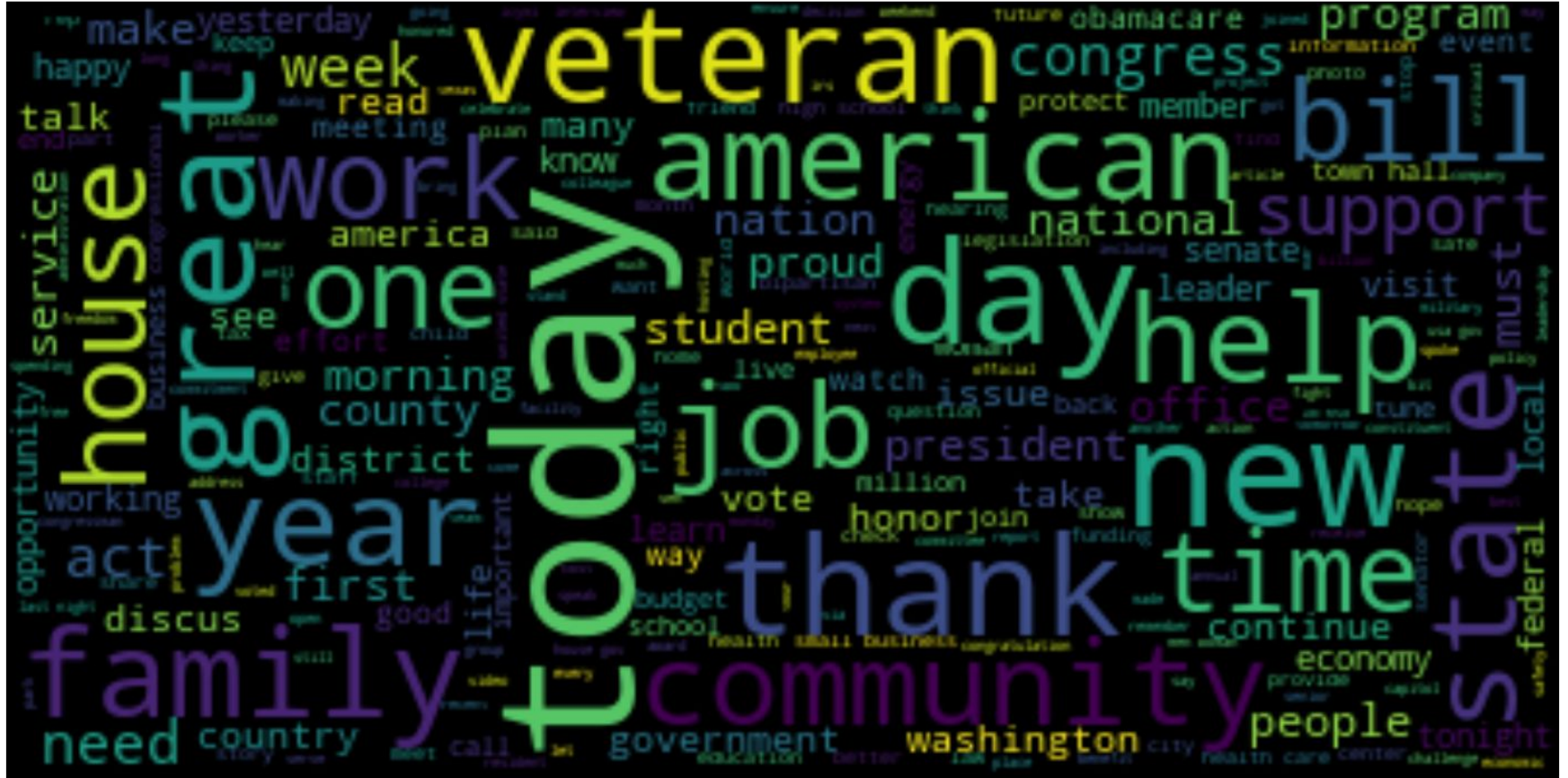
The Data

- Originally provided by the [Data For Everyone Library](#) on [Crowdfunder](#), accessed through Kaggle
- Twitter and Facebook posts of politicians from 2015
- 5000 posts with 20 labels
- Human-labeled bias and message columns:
 - Bias is partisan/non-partisan
 - Examples of message categories: attack, policy, constituency

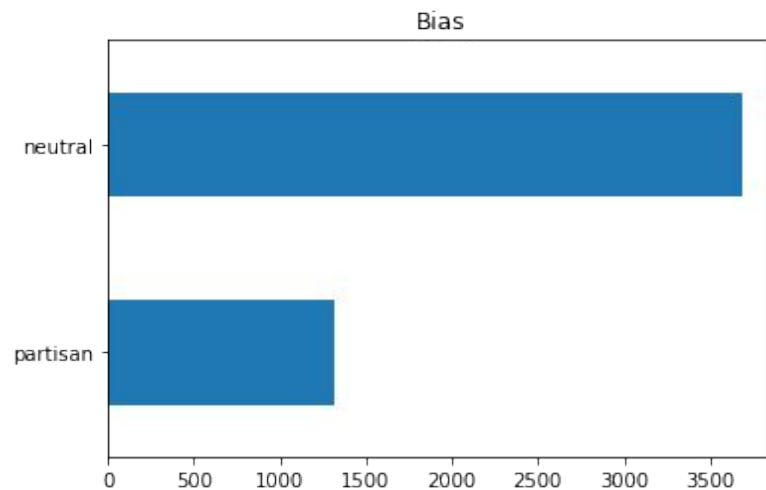
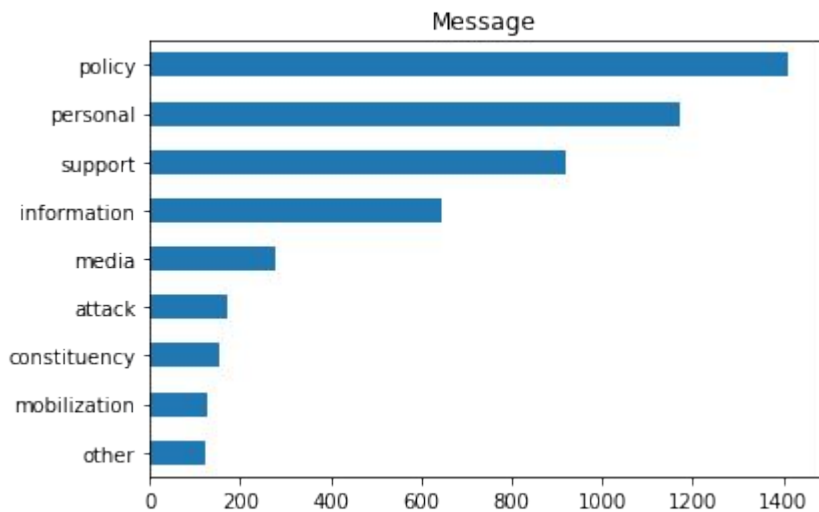
Partisan Word Cloud



Neutral Word Cloud

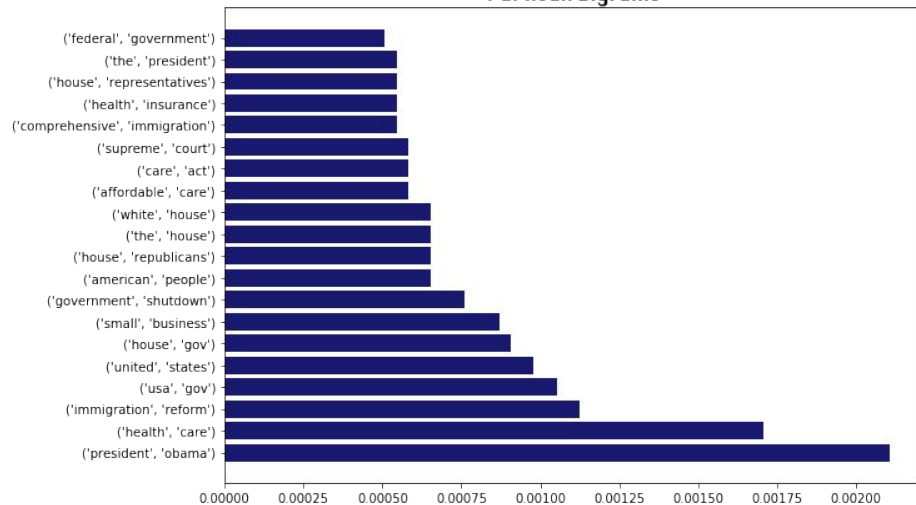


Value Counts for Message and Bias

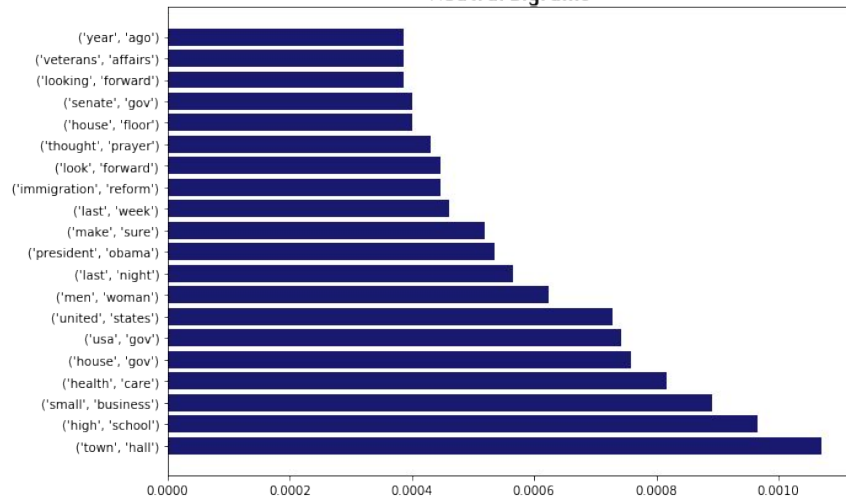


Most Common Word Pairings

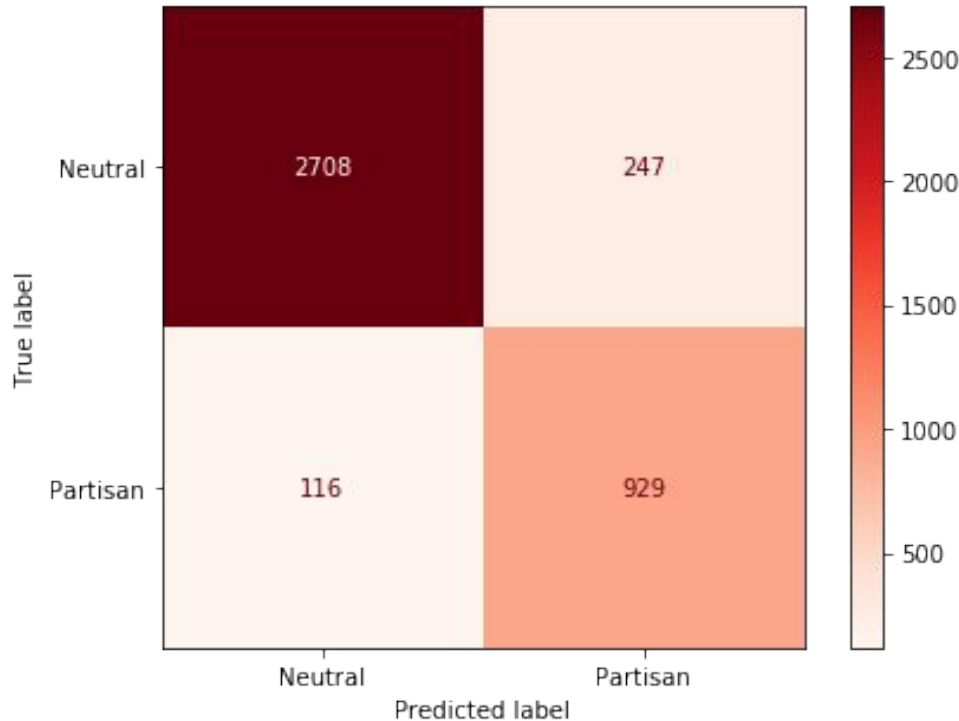
Partisan Bigrams



Neutral Bigrams

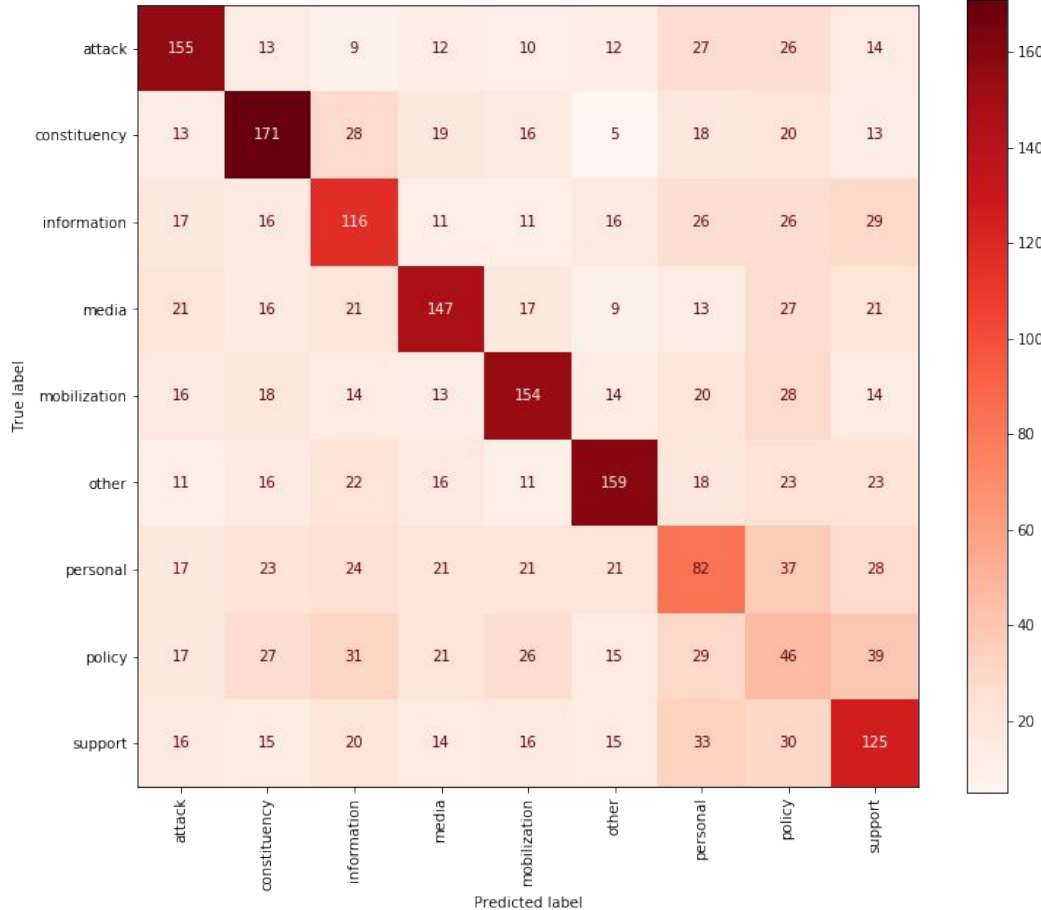


Random Forest Test Confusion Matrix



- 90% accuracy
- Took more samples of partisan posts to improve model performance

KNN Test Confusion Matrix



- 45% accuracy (vs 11% with random guessing on a balanced dataset)
- Took equal samples of each message type to improve model performance

Recommendations

- To obtain posts that can inform readers on a politician's partisan views, use the Random Forest classifier to label and filter out neutral posts.
- The KNN model correctly classified a high number of posts that address a politician's constituency, so this model can best be used for obtaining posts in that category.
- Use search terms that relate to specific laws and policies when attempting to identify partisan posts.

Questions for Future Work

- How does this data compare to more recent posts by politicians?
- How accurately can the models predict the bias and message of political posts by those who don't hold public office?
- How does the message and bias of political posts vary, if at all, across different social media platforms?



Thank you!

