



# U.S. Presidential Speeches Analyzer, Visualizer, and (fun) Game!

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## Project Description

Welcome to a small program for analyzing U.S. presidential speeches from George Washington to Donald Trump. What we can do:

- Generate top 5 words for each president - see how trend changes and compare with indices on democracy
- Explore who is the most positive president based on his speech
- Generate a short and long presidential speeches ... and many more!

## Data Sources

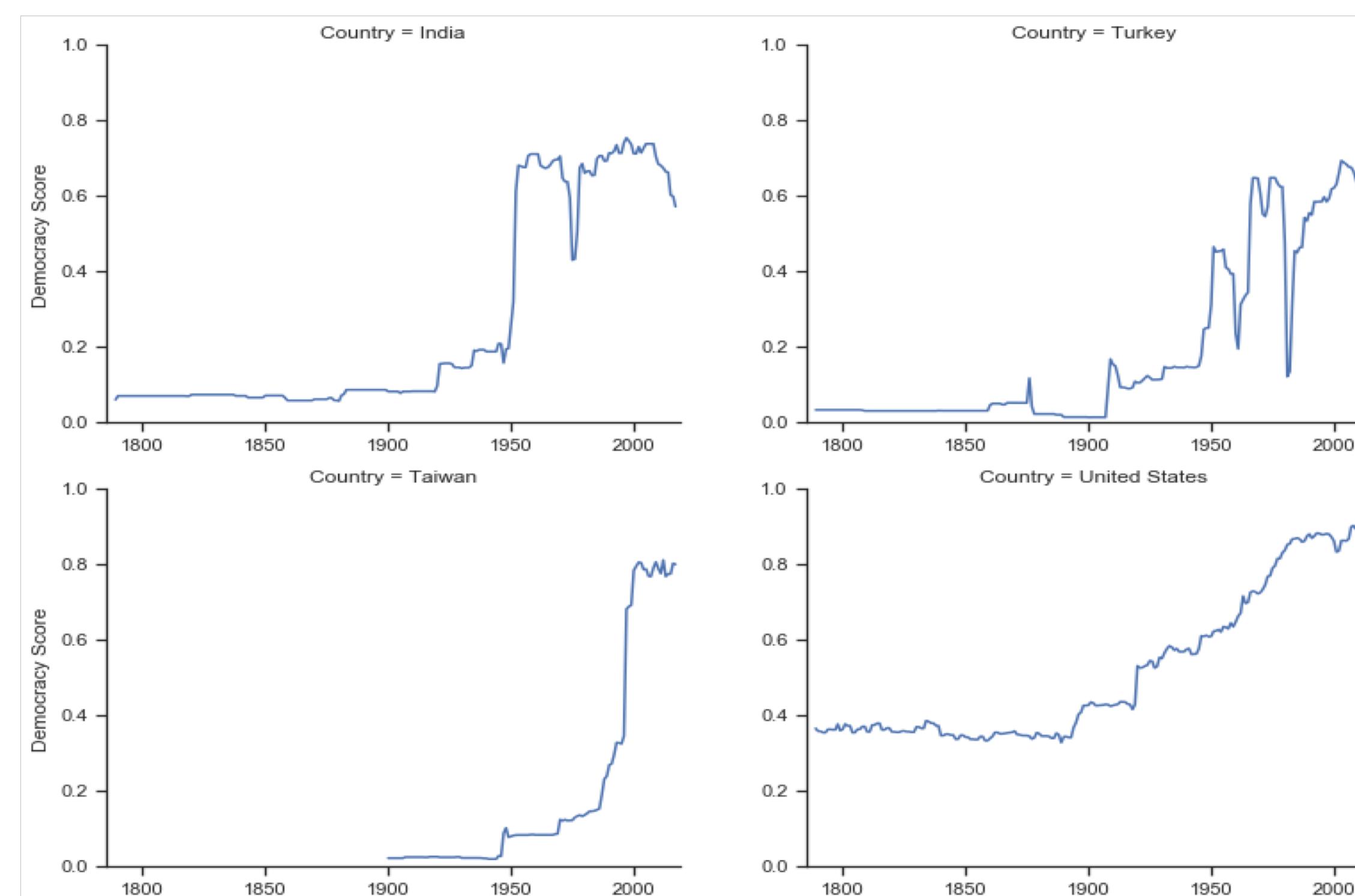
1) University of Virginia Miller Center famous presidential speech collection - obtained by scraping

The Presidency / Presidential Speeches			
PRESIDENT	DATE		
George Washington	John Adams	Thomas Jefferson	James Madison
James Monroe	John Quincy Adams	Andrew Jackson	Martin Van Buren
William Harrison	John Tyler	James K. Polk	Zachary Taylor
Millard Fillmore	Franklin Pierce	James Buchanan	Abraham Lincoln
Andrew Johnson	Ulysses S. Grant	Rutherford B. Hayes	James A. Garfield
Chester A. Arthur	Grover Cleveland	Benjamin Harrison	William McKinley

2) Varieties of Democracy (V-Dem) Dataset: a multidimensional and disaggregated dataset that reflects the complexity of the concept of democracy (downloaded from website)

3) Kaggle Sentiment Dataset: 1500 positive and 1500 negative labeled reviews from amazon.com, imdb.com and yelp.com used for training sentiment model (downloaded from website)

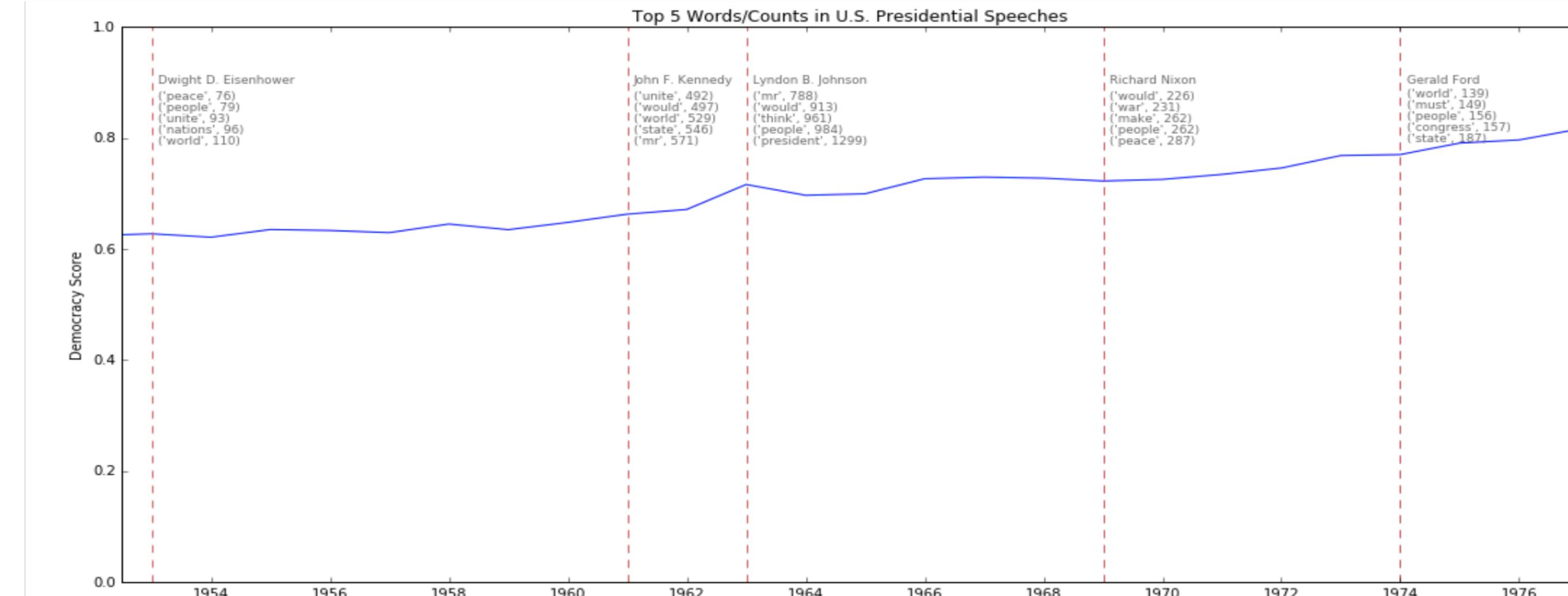
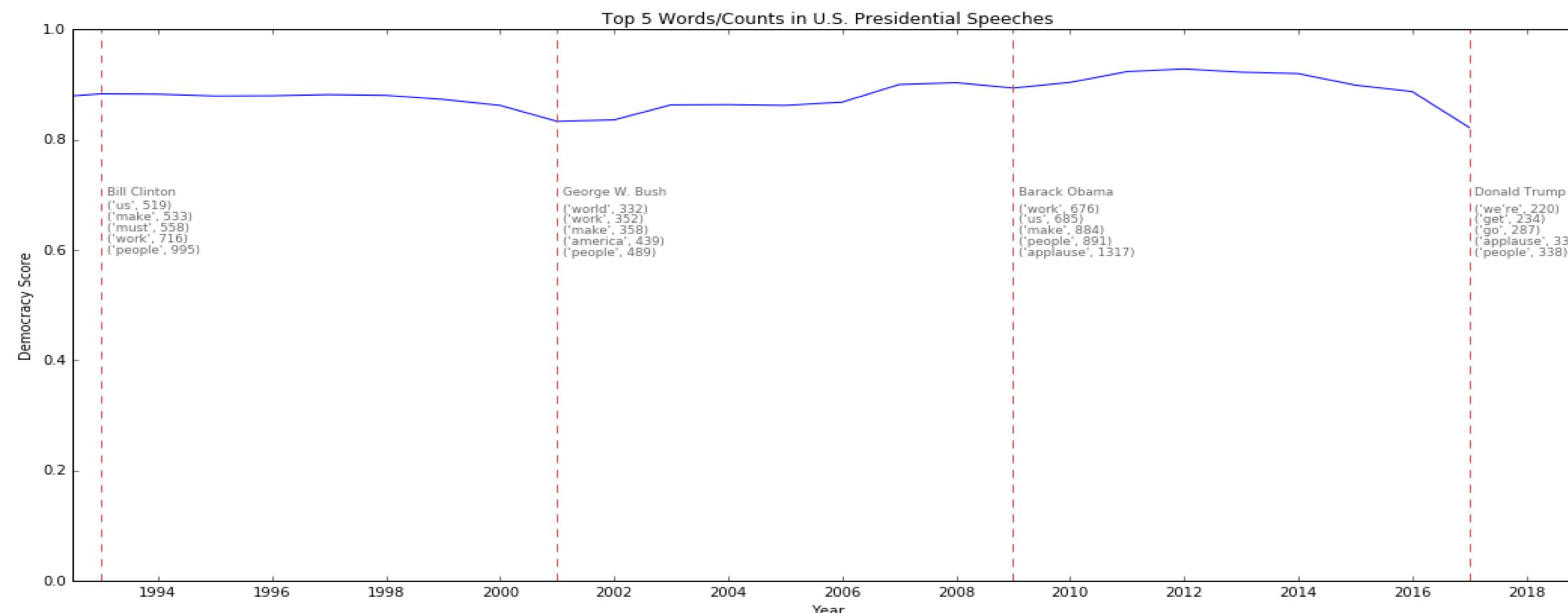
## Democracy Scores: India, Turkey, Taiwan, United States



## Five Models of Text Analysis

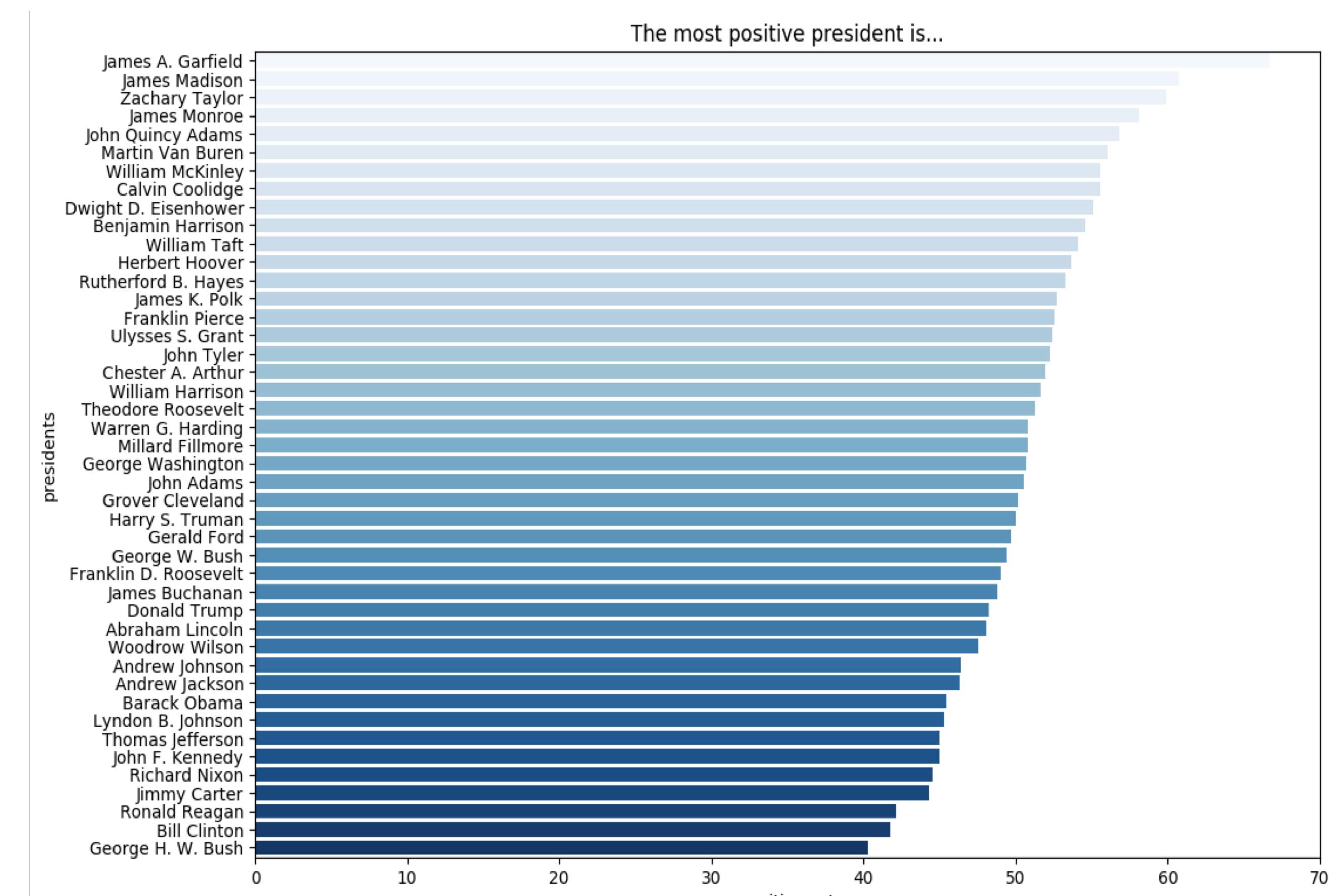
### Top 5 Words by President

We plotted the top 5 words spoken by each president during their presidential term against the democracy score.



### Sentiment Analysis

We implemented sentiment analysis on each president and plotted their positivity:



## Tweet Generation Game

Pick your favorite president and see a tweet our model generates for you! Here you go:

```
!!! Welcome to PTGG -- Presidential Tweet Generation Game !!!  
Enter the last name of the U.S. president that you want below  
|||  
Enter a president's lastname:Obama  
How many words? (Type an integer):25  
Please wait a moment. Generating a tweet...  
Here is a tweet for you!  
living . we 've read one staff and succeed and will kill us remember how budgeting works , the meantime , and the arabian king .  
Do you want to play again?  
Type 'yes' or 'no': yes  
Enter a president's lastname:Jefferson  
How many words? (Type an integer):25  
Please wait a moment. Generating a tweet...  
Here is a tweet for you!  
measures of connecticut has permitted to give firmness which can be an agent , but such offers of the meantime , however , that we are  
Do you want to play again?  
Type 'yes' or 'no': no  
Thank you for playing! See you again!  
student@svn:~/capp30122-win-19-ipekcinar-keertana-sanittawan/projects$
```

## Similarity Analysis

We constructed a model to see given a president which other president is the most similar: we found that Donald Trump is most similar to Grover Cleveland!



## LDA Analysis

We constructed LDA model to find the major topics in their speeches and visualized it:

