NEWS BIAS ANALYSIS

Jeesoo Jhun

Flatiron Research Institute

INTRODUCTION

AllSides™

KEY QUESTIONS

01

What is the distribution of political bias across news articles and their sources?

02

How do search query suggestions differ between Google and Bing for politically charged topics?

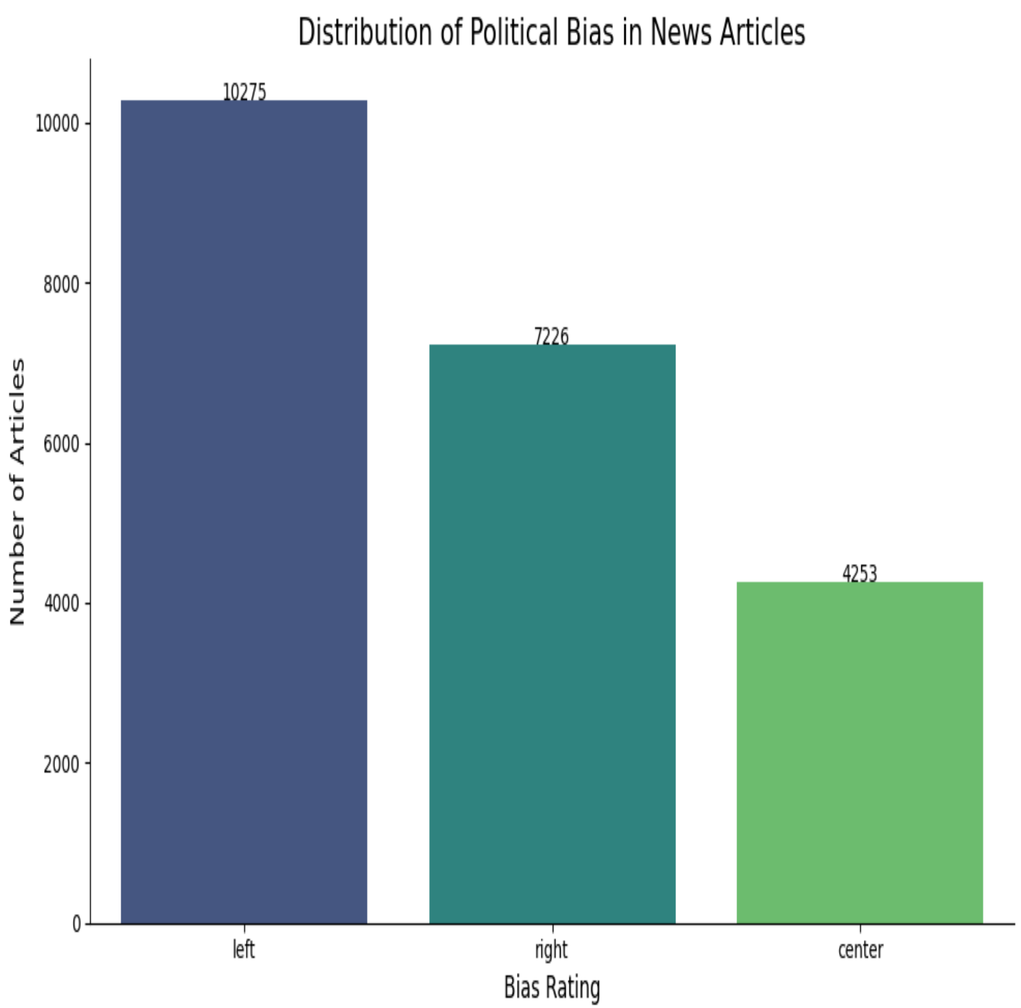
03

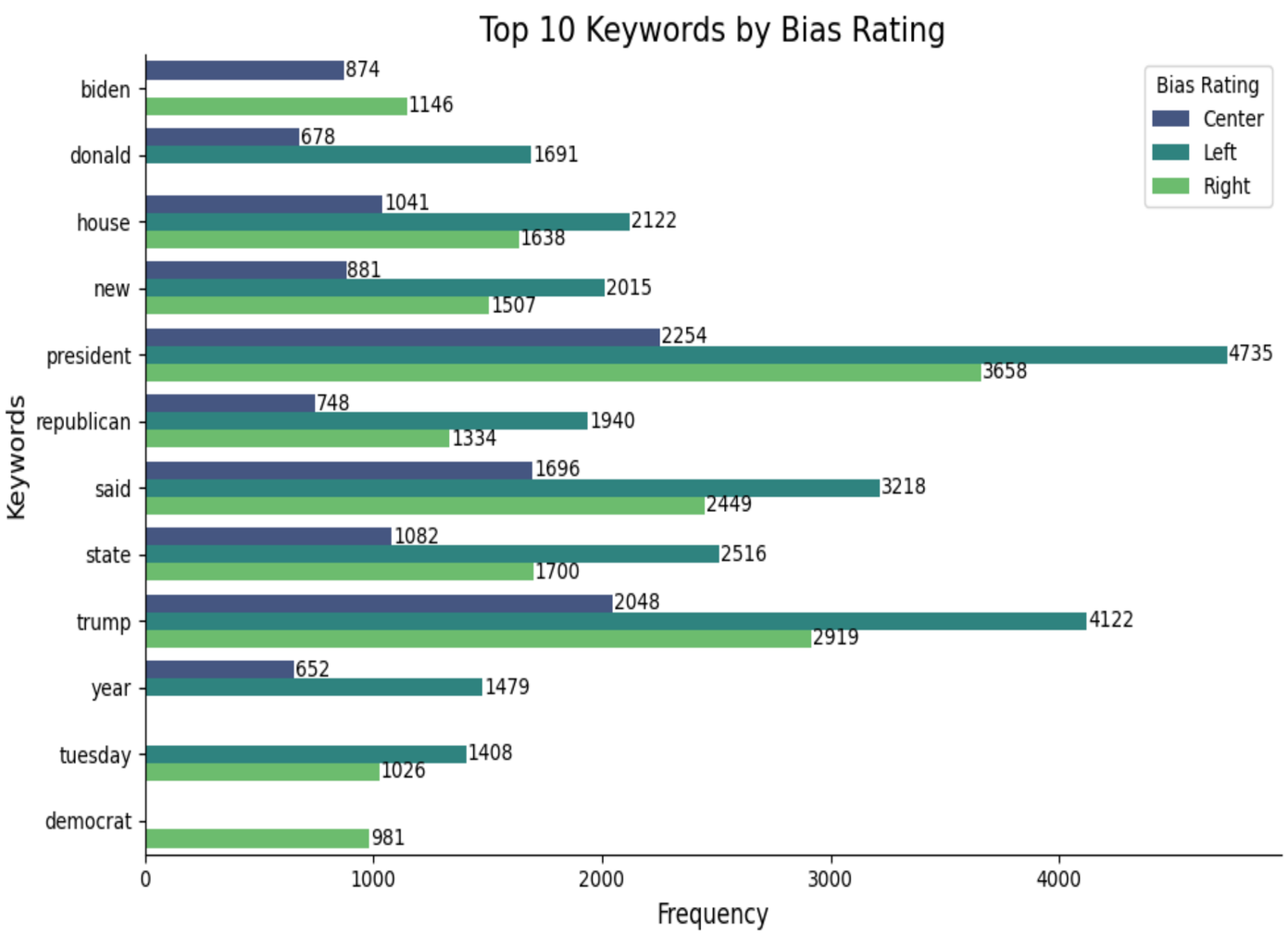
Are specific keywords or topics strongly correlated with bias labels (e.g., Left, Center, Right)?

04

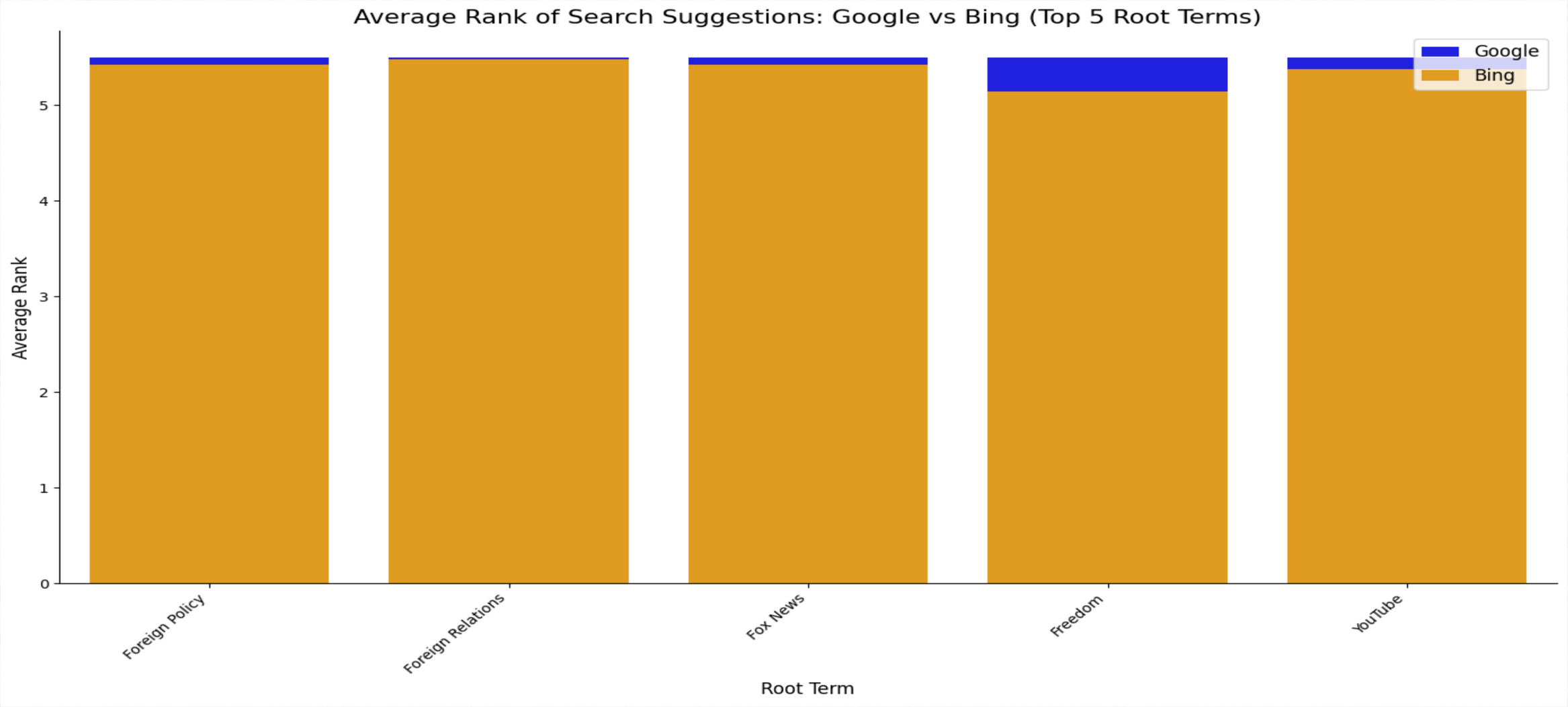
Can we accurately classify news articles into Left, Center, and Right biases using neural network models?

Bias Distribution



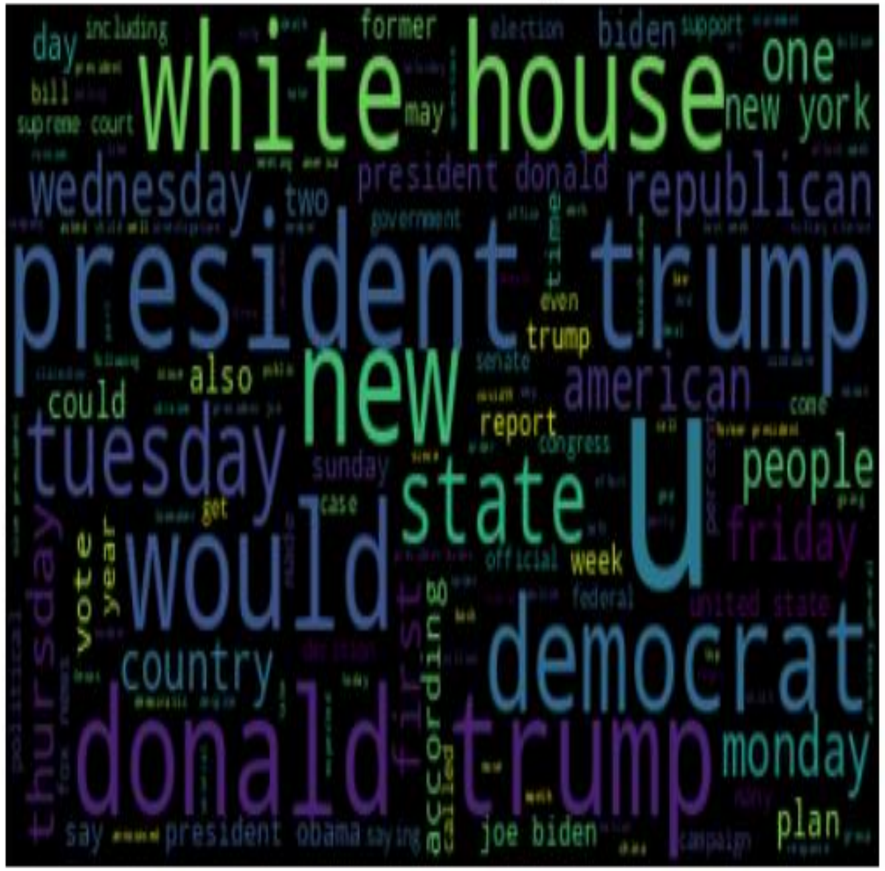


Search Query Suggestions

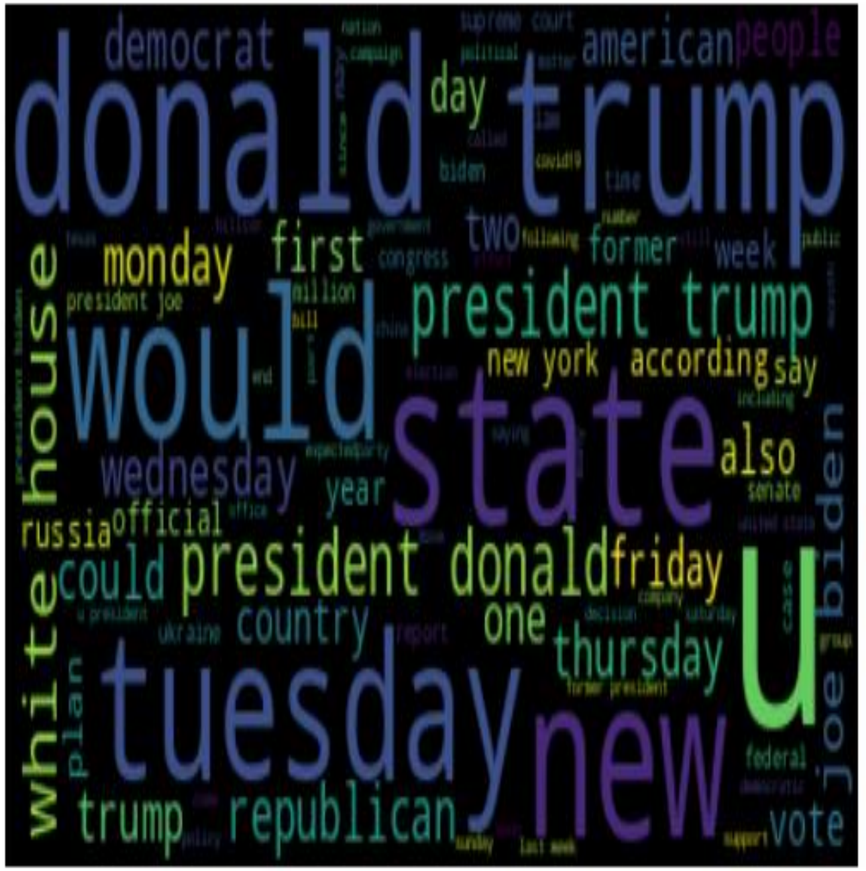


Keywords and Bias Correlation

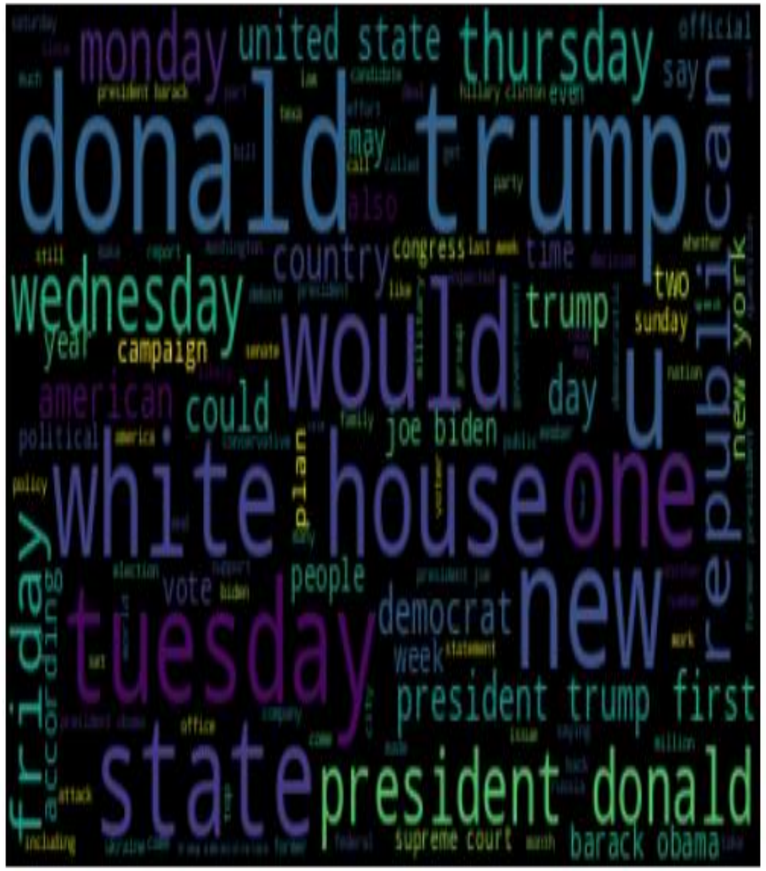
WordCloud for right



WordCloud for center

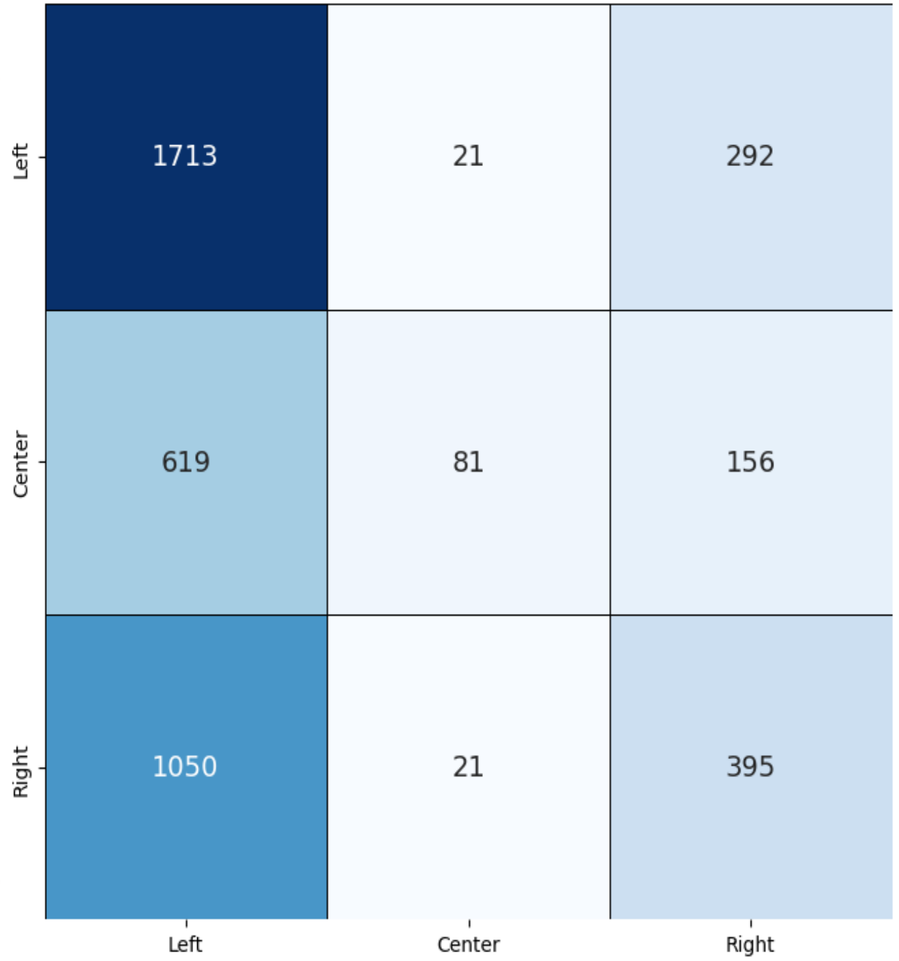


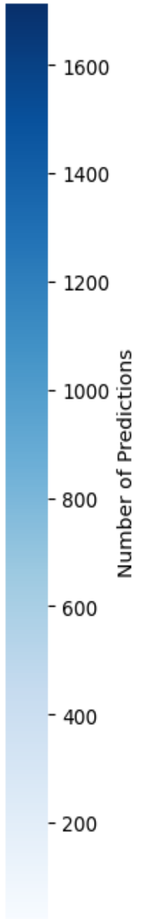
WordCloud for left

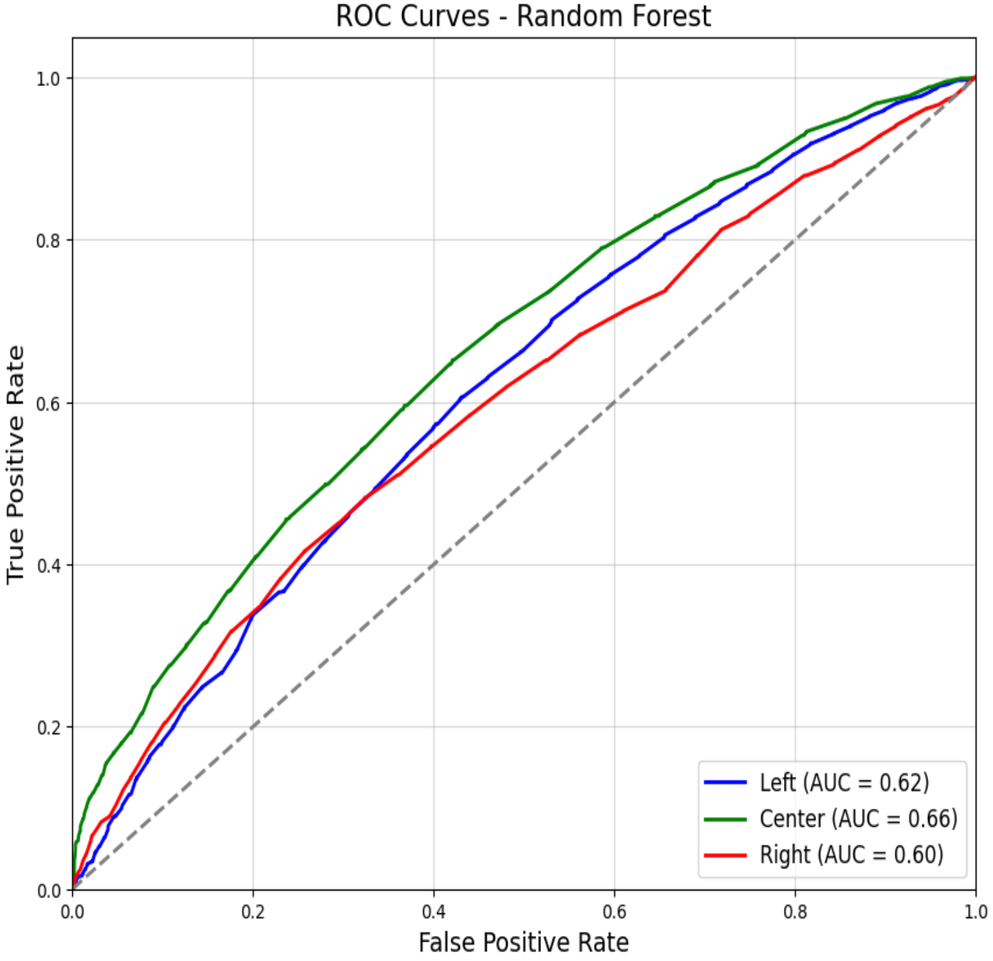


Model Performance

	Model	Accuracy
0	Logistic Regression	0.490110
1	Random Forest	0.503450
2	SVM	0.491490
3	Naive Bayes	0.474931
4	k-Nearest Neighbors	0.416973
5	Decision Tree	0.421803







49.2%

Transformer Model Accuracy Score

The transformer-based model, like the fine-tuned BERT model, achieved similar accuracy to the Random Forest model at about 49%, but it handled the imbalanced dataset slightly better, as shown by a higher F1-score of 44.5%.

CONCLUSIONS & NEXT STEPS

01.

Key Insights :

Bias in news articles is not only reflected in language patterns but also in the imbalance of representation across political perspectives

02.

Areas for Improvement

03.

Practical Applications

THANK YOU VERY MUCH!

jeesoo@flatiron.com