Predicting the 2024 Presidential Election Outcome Using Deep Learning

Portfolio Project 1

By Mark Fleet

DSC-680, Professor Catherine Williams

Bellevue University

Business Problem:

The project aims to provide accurate predictions for the winner of the 2024 U.S. presidential election based on the candidates from the Democratic and Republican parties and the money they raise. This analysis can assist political analysts, campaign strategists, and the general public in understanding potential election outcomes and making informed decisions.

Datasets:

Historical Election Data: This dataset will include historical presidential election results, including candidate names, party affiliations, and state-wide results, from previous elections (e.g., 2000-2020).

2024 Candidate Data: This dataset will contain information about the candidates running from the Democratic and Republican parties for the 2024 presidential election, including their backgrounds, policy positions, campaign spending, and endorsements. Data sources include: Federal Election Commission (FEC), campaign sites, opensecrets.org, News and Media.

Demographic and Socioeconomic Data: Supplementary data on demographic and socioeconomic factors, such as voter demographics, economic indicators, and state-level political sentiment, may be used to enhance prediction accuracy.

Methods:

To complete this project, the following methods will be employed:

* Data Collection: Collect and preprocess the historical election data, 2024 candidate data, and demographic/socioeconomic data.
* Feature Engineering: Create relevant features from the candidate data and additional data sources, such as sentiment analysis of campaign speeches and social media activity.
* Deep Learning Model: Build a deep learning model (e.g., neural network) that takes candidate features and historical election results as inputs to predict the election outcome.
* Model Evaluation: Evaluate the model's performance using appropriate metrics (e.g., accuracy, F1 score, confusion matrix).
* Visualization: Visualize the election predictions and key insights using data visualization techniques.

Ethical Considerations:

Potential ethical considerations for this project include:

Ensuring privacy and consent when using social media data or personal information of candidates.

Avoiding bias in data and model predictions.

Transparently disclosing the limitations and uncertainties of election predictions.

Challenges/Issues:

Data Availability: Ensuring that accurate and up-to-date candidate data is accessible.

Model Complexity: Managing the complexity of deep learning models and avoiding overfitting.

Ethical Concerns: Addressing potential biases and ethical concerns associated with election predictions.

Political Bias: Bias in current events can structures narratives and drives misinformation campaigns. It will be important to remain neutral while working this project.

References:

* Library of Congress. (n.d.). Presidential Elections: A Resource Guide. Retrieved from https://guides.loc.gov/election-statistics/presidential-elections
* University of California, Santa Barbara. (n.d.). American Presidency Project: Elections. Retrieved from https://www.presidency.ucsb.edu/statistics/elections
* (More resources to come as EDA continues)