# Descriptive Analysis Summary: 2024 Presidential Digital Datasets

## Overview

This project provides a descriptive statistical and visual analysis of four datasets tied to political messaging during the 2024 U.S. presidential cycle. Each dataset captures a different aspect of the digital political landscape, including public-facing social media posts, paid advertisements, and theme-level classifications. Our goal was to summarize trends in content types, audience engagement, and messaging strategies using Python-based scripts and visual tools.

## Datasets Used

- 2024\_fb\_posts\_president\_scored\_anon.csv – Facebook posts made by or about presidential candidates

- 2024\_tw\_posts\_president\_scored\_anon.csv – Twitter posts related to presidential candidates

- 2024\_ads\_president\_scored\_anon.csv – Paid advertisements run on social media platforms

- 2024\_fb\_ads\_president\_scored\_anon.csv – Additional dataset focusing on ad-specific metadata and engagement

## How to Run the Code

1. Install the necessary libraries (if not already installed):

pip install pandas matplotlib seaborn polars

2. Run the corresponding script from terminal or in VS Code:

Pandas\_python.py

Pure\_python.py

Polars\_python.py

## Key Insights and Findings

### Facebook Posts (2024\_fb\_posts\_president\_scored\_anon.csv)

* The majority of posts originated from a limited number of commonly used sources or platforms.
* Engagement metrics such as retweets and shares showed a highly uneven distribution, with a small number of posts going viral while most received minimal attention.
* Topic flags frequently referenced themes like 'incivility', 'election integrity', and 'race and ethnicity', indicating a prominent presence of polarized or issue-focused discourse.

### Twitter Posts (2024\_tw\_posts\_president\_scored\_anon.csv)

 Much like on Facebook, most tweets saw low engagement, with a small number garnering disproportionately high attention.

 The vast majority of posts were in English, with minimal representation of other languages.

 Highlighted flags frequently pointed to ongoing conversations around race, governance, and the economy, emphasizing messages that were often polarizing or advocacy-focused.

### Ads (2024\_ads\_president\_scored\_anon.csv)

 The ads included structured metadata, featuring fields such as estimated impressions, ad spend, and demographic targeting.

 Ads targeting larger audiences frequently emphasized key issues like healthcare, the economy, and public safety.

 Many ads employed strong calls to action, including donation requests and voter mobilization efforts. Notably, flags like 'fraud' and 'truth' appeared more often in attack-oriented ads.

### Facebook Ads (2024\_fb\_ads\_president\_scored\_anon.csv)

* This dataset offers detailed insights into the structure and targeting strategies of political advertisements.
* Fields like ‘delivery\_by\_region’ and ‘demographic\_distribution’ indicate a highly precise approach to regional targeting.
* As with the other datasets, the most prominent topic flags centered around emotionally charged or politically polarizing themes such as immigration, public safety, and women’s issues.

## Output

Each Python script outputs a set of charts (histograms, bar charts, boxplots) that summarize both numeric metrics (like engagement, spend, impressions) and categorical values (like source, language, topic flags). All charts are saved to separate folders and can be used directly in presentations or reports.

## Conclusion

Together, these datasets offer a comprehensive view of the online political messaging landscape in the 2024 presidential cycle. Whether through organic posts or targeted ads, we observe consistent use of emotionally charged topics and large-scale mobilization strategies. The combination of social engagement and issue-based flagging makes this a rich source for further political or sociological research.