# Social Network Analysis and the 2016
# US Presidential Election

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# Project Objectives

- Understand the role of social network analysis in the 2016 US presidential election

- Identify the key insights from social network analysis

- Impact of social interactions on political performance.

# **Summary**

Social network analysis is a powerful tool that can be used to study the spread of information, the formation of communities, and the impact of social interactions on a wide range of phenomena.

In the context of the 2016 US presidential election, social network analysis has been used to examine the spread of fake news and misinformation, the impact of social media on political performance, and the factors that contributed to the polling miss.
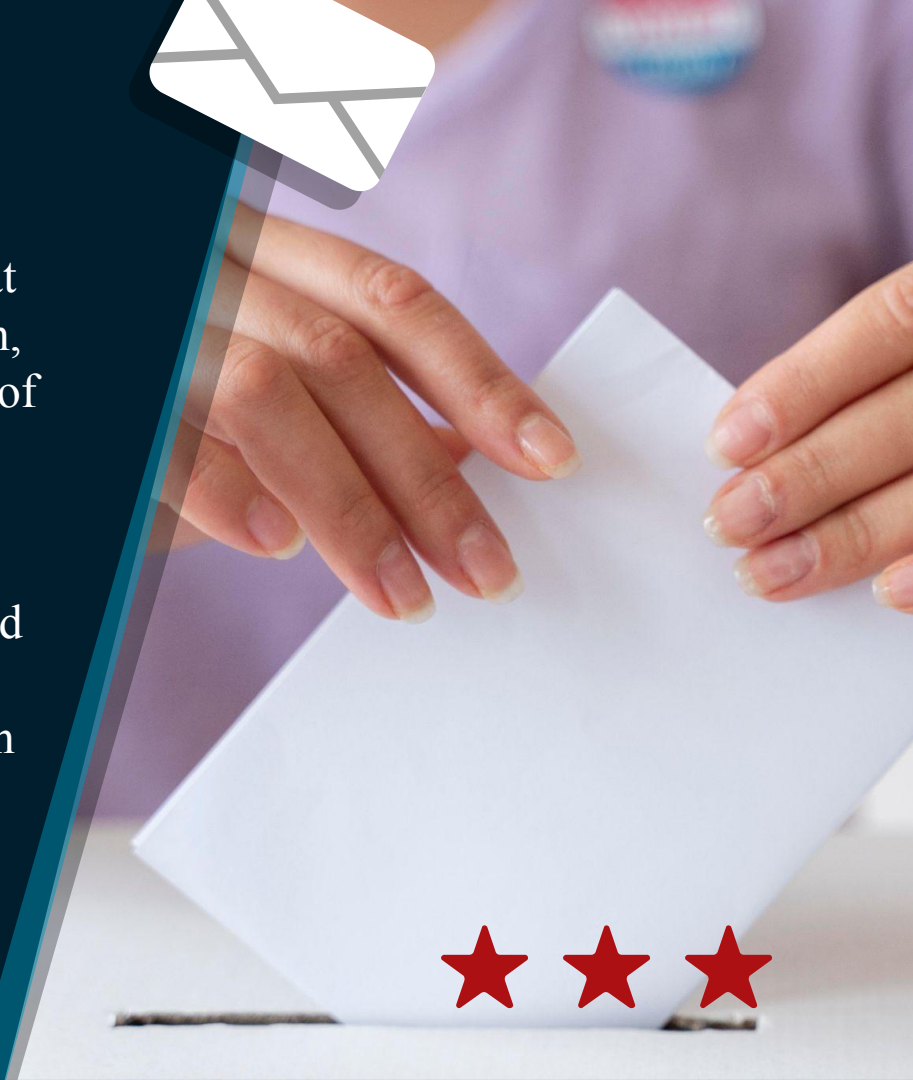
# Experiment with network analysis

One way to experiment with social network analysis is to track the flow of information between Trump and Clinton supporters during the 2016 election. This data could then be used to identify the most common news sources shared by each group, as well as the most influential users in each network.

This information could then be used to develop strategies for combating misinformation and promoting informed voting. For example, it could be used to identify and target users who are particularly susceptible to fake news, or to develop educational campaigns that reach a wide range of voters.

# Experiment with network analysis
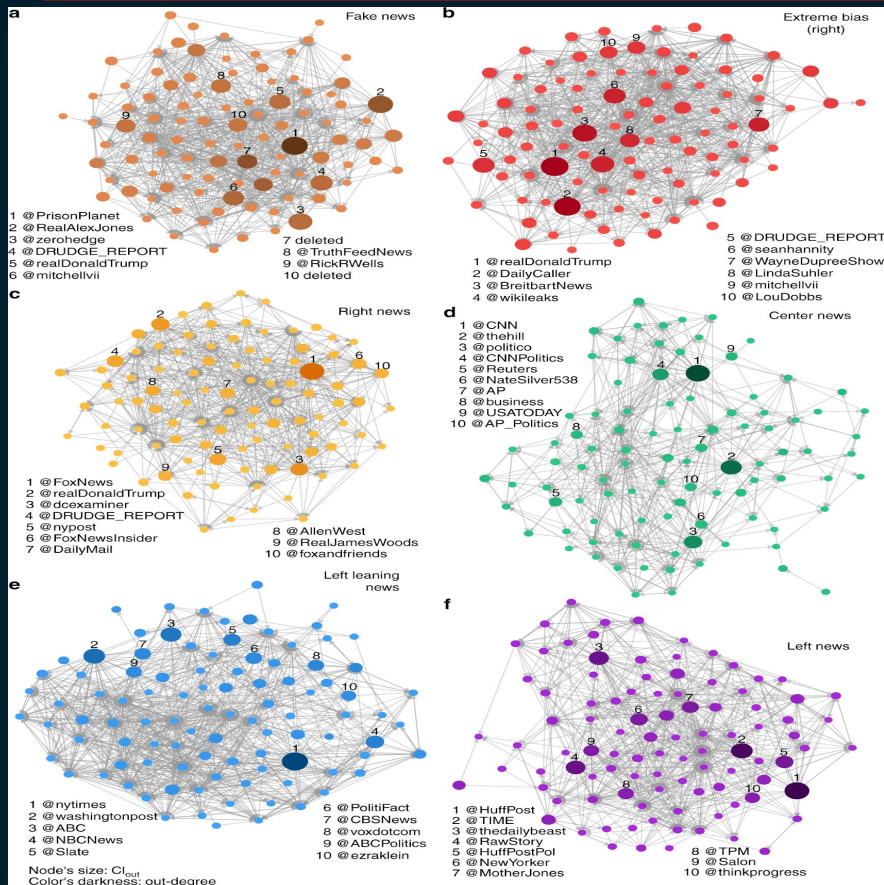
**Communication routes:**

The chains created by the top one hundred media propagators of the six biggest retweet networks appear in Figure 1. Supplementary Figure 1 shows the retweet networks for conservative and extremely prejudiced (left) news. We clarify why news spreaders are identified in the parts titled Top News Spreaders and Methods. There is an apparent difference between the networks reflecting the flow of illegal and seriously biased (right) news and the systems suggesting the flow of left-leaning and center news (figure 1). Retweet networks comprised of the top 100 news spreaders from various media genres. Retweet networks for fake news (a), severe bias (right) news (b), right news ©, center news (d), left-leaning news (e), and left news (f), with only the top 100 news spreaders sorted by aggregate effect shown.

The flow of information between users is represented by the direction of the links. The size of the nodes is proportional to their Collective Influence score, CIout, and the color shade of the nodes represents their out-degree, which is the number of different users who have retweeted at least one of her/his tweets with a URL referring to a news site, ranging from dark to light. The networks of fake news (a) and severe bias (right) (b) have higher average connectedness and are less varied than networks of center and left-leaning news.

# Manuscripts Contributions

### Manuscript 1 :

Network analysis to identify the most influential spreaders of fake and traditional news.

### Manuscript 2 :

A qualitative approach to study the role of culture and social interaction in political performance.

### Manuscript 3 :

A quantitative approach to evaluate the performance of election polls.

# How do the different techniques differ?

## Manuscript 1 ☒

- Analyzing fake news spread on Twitter during 2016 U.S. election
- Identifying influential accounts
- Examining echo chambers and polarization
- Investigating the impact on public opinion
- SNA to track fake news spread on Twitter and identifying sharers

## Manuscript 2 ☒

- Studying political performance on social media
- Analyzing profanity and transgressive discourse
- Investigating everyday interactions
- SNA to explore how cultural elements influence public feelings

## Manuscript 3 ☒

- Evaluating the influence of social networks on polling data
- Analyzing data collection and analysis methods used by pollsters
- SNA to study data flow, survey influence, and communication dynamics among pollsters and respondents.

# Understanding the Social Network Analysis Part of the Paper

So during to investigation; two separate processes controlling the relationship between fake news and regular news to be found. The top spreaders of center and liberal news outlets, mainly journalists, are the key engines of Twitter activity, especially for Clinton supporters' commitment, who represent the majority on Twitter.

On the other hand, the behavior of Trump supporters controls the dynamics of fake news, and the top spreaders of fake news just follow it.

# Feasibility for Real-World Applications

| Manuscript 1 | Manuscript 2 | Manuscript 3 |
|---|---|---|
| <ul><li>Daunting task;</li><li>challenging to mitigate;</li><li>valuable inputs for the development of strategies;</li><li>Improve fact-checking mechanisms.</li></ul> | <ul><li>Cultural and sociological dimensions of political;</li><li>The feasibility of applying these is a bit complex;</li><li>Encroach on issues of free speech;</li><li>Provides crucial insight;</li><li>Offer a deeper understanding of trends in political .</li></ul> | <ul><li>Relatively higher feasibility for real-world applications;</li><li>Evaluates the accuracy of election polls and the role of social networks;</li><li>Enhance polling methodologies and data collection techniques;</li><li>Improve the reliability of election predictions.</li></ul> |

# Main Insights from Social Network Analysis

**1** Social network (SN) analysis techniques were likely used to understand the flow of information and the influence of key nodes in spreading fake news

**2** SN are shaping political performances, the spread of political narratives, and the profanation of political discourse

**3** SN affected the accuracy of election polls, especially in the context of misinformed or polarized social media environments

# Recommended Approaches

**Mapping the candidates' and their supporters' social networks.** Researchers conducted a study that examined the social networks of the two leading contenders, Donald Trump and Hillary Clinton, on Twitter. According to the study, Trump's network is more polarized and less linked than Clinton's network

**Analyzing misinformation and disinformation propagation.** According to an MIT study, misleading news items were circulated more extensively on social media than true news stories in the run-up to the 2016 election. According to the study, participants were more likely to disseminate bogus news reports if they agreed with their political beliefs.

**Investigating the influence of social media on voting behavior**. According to a study conducted by University of Michigan researchers, those who were exposed to more social media content regarding the 2016 election were more likely to vote. However, the study discovered that people's voting choices did not change as a result of their exposure to social media information

# **Feasibility paper's conclusions**

**1**   **2**   **3**

- policymakers, researchers, and professionals in the field of politics and communication.
- influence real-world applications, but the level of feasibility varies.
- Require longer-term, multifaceted strategies.

# Feasibility paper's conclusions

**1** The studies are frequently based on data from social media sites, which may or may not be representative of the general population. Twitter users, for example, are more likely to be young, educated, and urban than the general population.

**2** The research are frequently carried out in the United States, and the conclusions may not be applicable to other nations with distinct political systems and social media cultures.

**3** Studies are frequently conducted on a single election, and the results may not be generalizable to subsequent elections with different candidates and themes.

# Conclusion

Despite any difficulties, social network analysis can provide important insights into the impact of social media in elections and other social and political events.

However, it is critical to avoid generalizing the findings of any particular study and to evaluate the findings in light of the study's context.

Thank you