



Election Result Prediction Using Twitter Data

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Abstract :

Predicting election results is a hot area in political science. In the last decade, social media has been widely used in political elections. Most approaches can predict the result of a national election. However, it is still challenging to predict the overall results of many local elections.

This paper presents a machine learning based strategy to analyze Twitter data for predicting the overall results of many local elections.

The results suggest the predicted results are close to the actual election outcome. Researchers have used different approaches to investigate data from Twitter. These approaches focused on two issues. One is how to select Twitter messages. The other is how to analyze selected Twitter messages.

Few researchers selected Twitter message by using names of politicians involved in the elections. Their method used a sentiment score by counting positive and negative messages, which contains positive and negative words, respectively. If a message has both positive and negative words, it is both positive and negative. Others used keywords based on names of candidates to search related Twitter messages. They applied a Naïve Bayes model for sentiment analysis.



Precise Problem Statement:

The problem is to develop a model that can accurately predict the outcome of an election using Twitter data. Specifically, the model should be able to analyze tweets related to the election, including those containing candidate names, party affiliations, and key election issues, and make predictions about which candidate or party is likely to win. The model should take into account the sentiment of the tweets, the influence of the users who posted them, and other relevant factors that may affect the election outcome. The goal is to create a reliable and accurate election prediction tool that can help political analysts, journalists, and voters understand and anticipate the results of an election.



Literature Survey :

"A Survey on Election Outcome Prediction using Social Media Analysis" by Mustafizur Rahman et al. (2019): This survey paper provides an overview of recent research on election prediction using social media data. The authors reviewed 39 papers on the topic and identified key techniques and challenges in the field.

"Twitter Sentiment Analysis for Election Prediction in India" by Singh et al. (2017): This paper investigated the use of Twitter sentiment analysis for predicting the outcome of the 2014 Indian general election. The authors found that their model achieved an accuracy of 86% in predicting the election outcome.

Overall, these studies demonstrate the potential of Twitter data for predicting election outcomes, although there are still challenges and limitations to be addressed, such as the representativeness of the sample, the accuracy of sentiment analysis, and the influence of fake news and bots on social media.



Proposed Solution/Model Description:

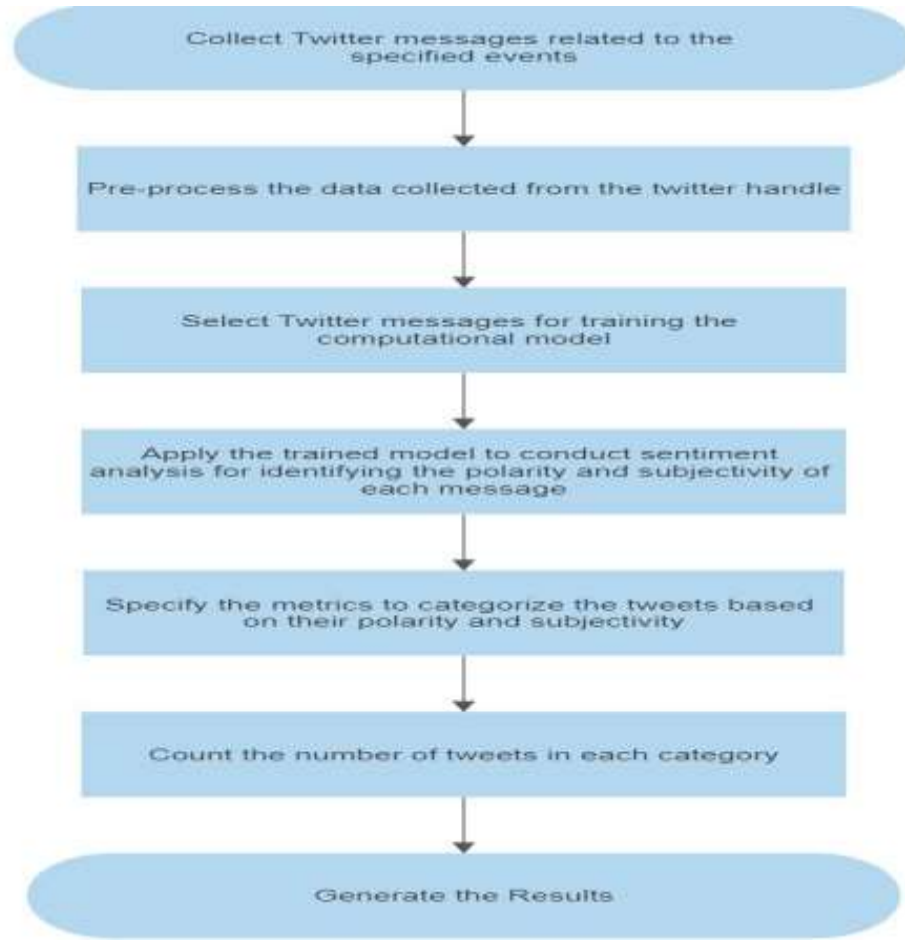
Data collection: Collect tweets related to the election, including those containing candidate names, party affiliations, key election issues, and relevant hashtags. The data can be obtained using the Twitter API or other data mining tools.

Data preprocessing: Clean and preprocess the data by removing duplicates, irrelevant tweets, and noisy data. Apply text processing techniques such as tokenization, stemming, and stop-word removal to prepare the data for analysis.

Sentiment analysis: Use sentiment analysis techniques such as lexicon-based approaches, machine learning algorithms, or deep learning models to determine the sentiment of each tweet. Sentiment analysis can help identify the overall public opinion about the candidates and parties, and how it changes over time.

Feature extraction: Extract relevant features from the tweets, such as the number of tweets mentioning each candidate or party, the sentiment score of each tweet, the user's location, and the retweet count. These features can be used to build a predictive model for election outcome.

Block Diagram/Algorithm Flowchart:



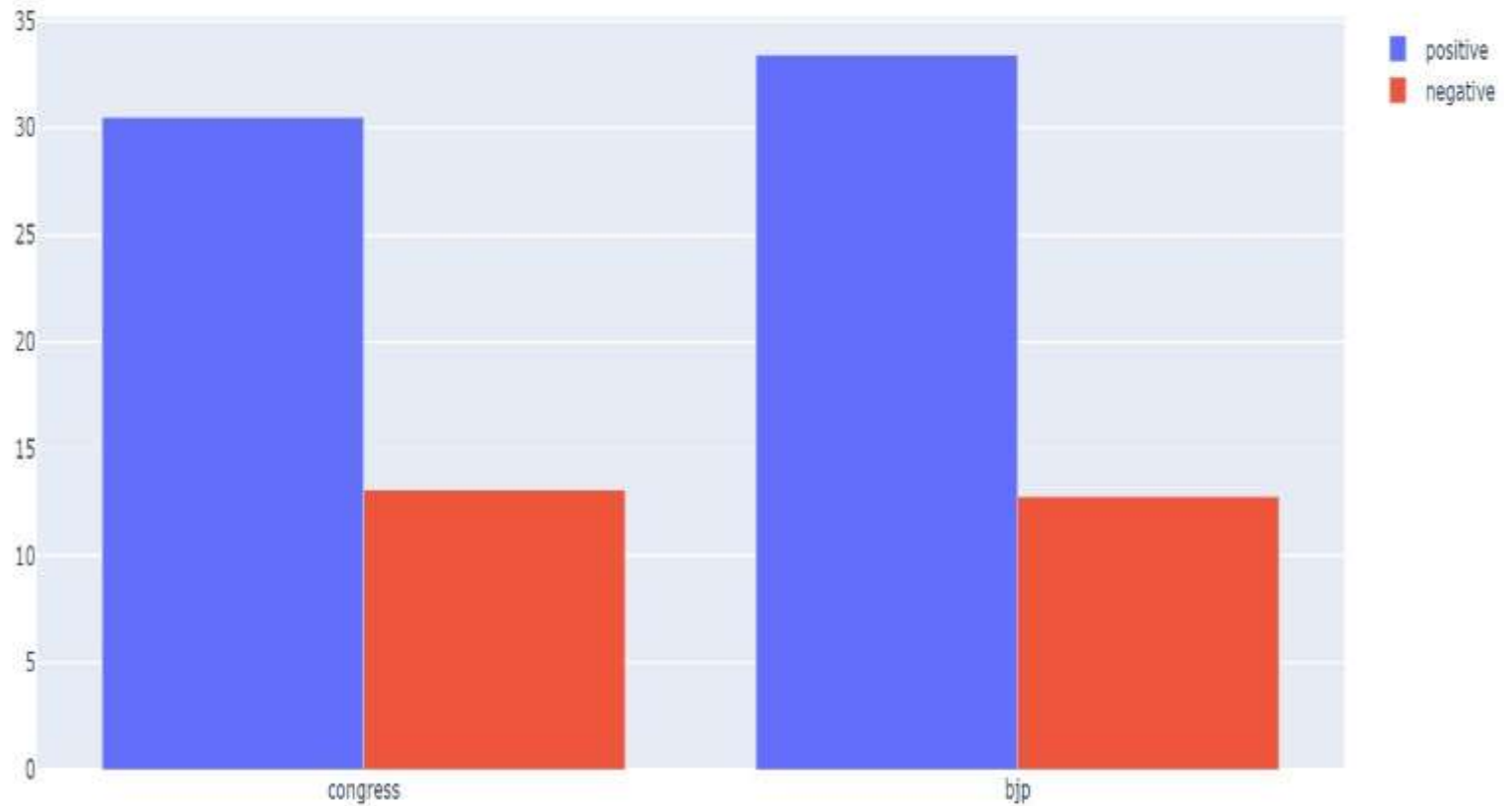
BJP Dataset :

pjustin23	@narendramodidistracted all TV channels from Masood Azhar/China fiasco. Today one channel markets #balakotproof. Others have polls showing Modi/BJP win.
cat_42568	@narendramodi@MissPaswan But sure BJP win 100% Dam sure because youth is with modiji
PSerefine	@narendramodiBJP meeting at Kharu held under the Chairmanship of Sh. Dorje Angchuk District President Leh in presence of Sh. Chering Dorje Lakrook and other senior leaders. The party wor
Simsy6	@narendramodiAirstrike will help BJP win more than 22 seats in the state
SidRamone	@narendramodihoneymoon' to help BJP win #Karnataka by-polls
StormBring	@narendramodiBJP winning Barrackpur and Bangaon. Serampore and Hooghly in close contest.
Maurice46	@narendramodiThis is my dream too. But after BJP wins 500 seats of its own with 70% vote share in 2024.
dustinmille	@narendramodiAre EVM being manipulated to ensure that BJP wins this general elections?
SidRamone	@narendramodiMany more shocking truth might get revealed if BJP wins!!
Davemortc	@narendramodilf alliance does not happen (high possibility) and BJP wins all 7 seats(again
HarrisonSt	@narendramodidon't get swayed away by any rhetoric around BJP winning big
ScoobyLuff	@narendramodiBJP WINNING ALL 8 UP SAHARANAPUR TOUGH FIGHT BUT CONGRESSI AND OTHER CHOR FIGHT MADE EASY FOR LAKHANPAL JEE ABKI BAAR 400 KA PAAR BSP KA HAATHI NIKLA
Vaderlr	@narendramodil have made Amethi ready for a BJP win: @smritirani
Tedluuu2	@narendramodilf BJP wins EVM rigged.
LFC_Bern	@narendramodialthough helped BJP win by cutting AAP's vote.
lisaellis201	@narendramodilf BJP wins enough seats in WB and Orissa to compensate losses in UP and Maharashtra
Nomar5g	@narendramodi#MODI Sir if BJP wins by majority and more seats in Karnataka credit should go to Chakravarty Sulibele
Aicha6086	@narendramodi#GoBackModi Air strike will help BJP win more than 22 Lok Sabha seats in Karnataka
OpossumS	@narendramodiDehradun And it will go back 3000 years if BJP wins the polls.
fordmotor	@narendramodiAnyone calling for voting NOTA is helping BJP win. Vote decisively to end this gunda Raj where NIA gives clean chit to murderers. And ruling party president misuses state mach
chevytruck	@narendramodiBJP winning in TV studios.
Rumholtz	@narendramodihe won't win and also the BJP . By chance BJP wins
Vitaman36	@narendramodiThe #BJP makes me hang my head in shame. These guys have no principles. They are crude. They are vulgar. Air strike will help BJP win more than 22 Lok Sabha seat
ABDHpodc	@narendramodiBJP winning Bengal
bjstooshor	@narendramodiSee the real face BJP wing and So - Called Hindu Organization VHP.
fkcgov	@narendramodiNow let's see how many seats will BJP win in 2024?
jimcollrealt	@narendramodiIndia war to help BJP win upcoming polls.
CynnieMar	@narendramodiThe Indian Armed Forces proved their mettle by destroying the terrorists' hideouts . The impact of this strike will help BJP win more than 22 seats in the state

Congress Dataset :

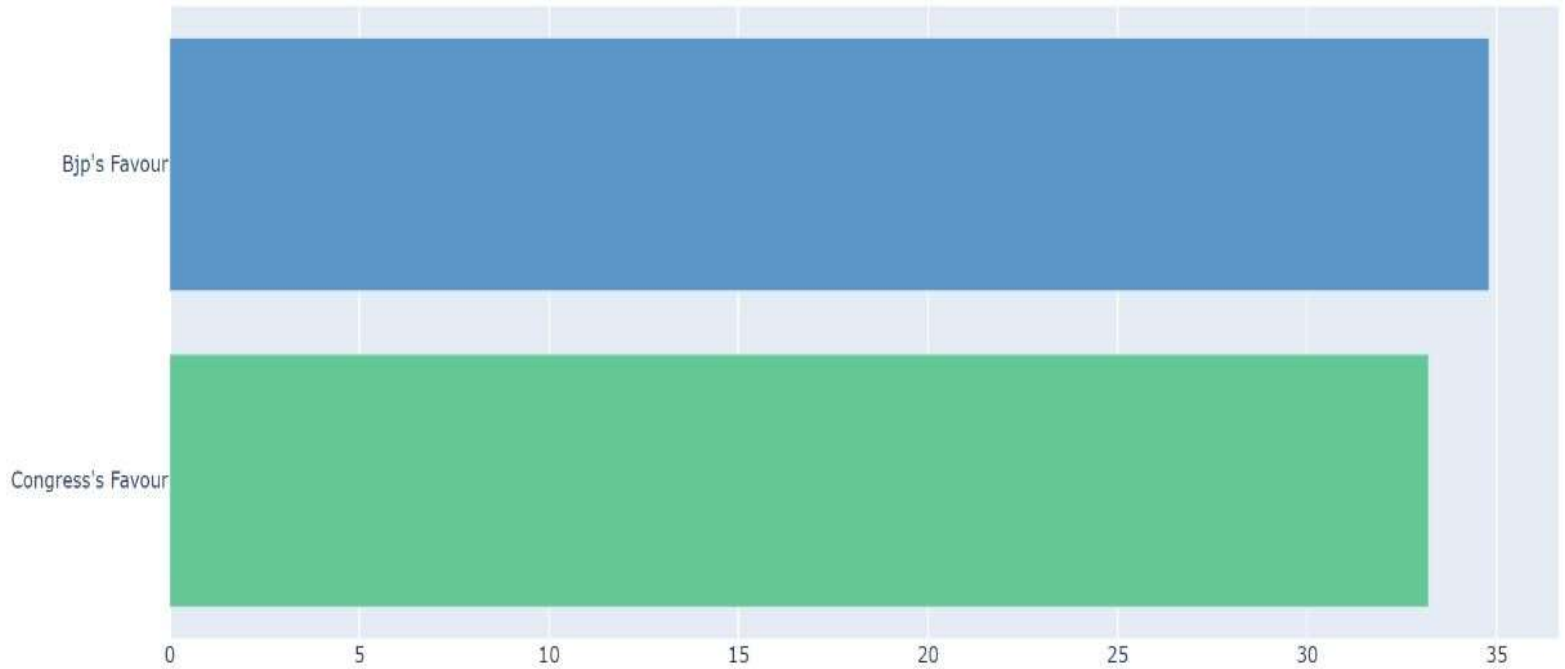
HoneyJ30292314	@RahulGandhiWhen they ask what has been done in 70 years, they do not insult Congress but our farmers and labourers: #RahulGandhi on #BJP
MarkSMundyIND	@RahulGandhi#GodiMedia #CongressParty
PainFreeLove	@RahulGandhi#congress wins
LewisBrandon239	@RahulGandhi#congress wins
Lolsonrealtor	@RahulGandhi#congress wins
yana_yudich	@RahulGandhi#lokcongress
elvincan2	@RahulGandhiCongress president
Complete_Dallas	@RahulGandhisaid they will work with each other and fight the upcoming polls together, according to party MLAs
ddk1	@RahulGandhiEventually the Congress Party will be left with frustrated deposit losers screaming and heckling other panelists on TV debates, due to relentless moral victories.
PhillyRepub1	@RahulGandhiHas Congress lost the Goa plot?
Erunner110	@RahulGandhi Since 2017, the Congress lost 15 of its 17 MLAs to defections. While the party's election campaign gathered steam since Dec, 2021, the Congress is still seeking to
HeyLady1776	@RahulGandhiCongress candidates on whether he would defect if the Congress loses elections.
J_K_Oh	@RahulGandhiPoll of Exit polls predicts #BJP & #Congress winning
gjrisky	@RahulGandhiBlack Day for Indian democracy if Congress wins
RobertNardone06	@RahulGa
TexasBr64310863	@RahulGandhi#VoteForCongress
thedemureshark	@RahulGandhi#VoteForCongress
Tammihazard2	@RahulGandhi#VoteForCongress
joelhthornton	@RahulGandhi#VoteForCongress
fishhunt247365	@RahulGandhiBJP confident of retaining power; Congress too hopeful of favourable verdict
Kadania1	@RahulGa
Boxer751	@RahulGandhi#AaRahiHaiCongress
mtbiker6975	@RahulGandhiCongress sends central observers ahead of results
authentically45	@RahulGandhiCongress in still hope to form the government
Count_Rollins	@RahulGandhi#Congress should start to take control over their people
jr_pettaman	@RahulGandhiCongress may win 12 to 16 seats, according to the ABP-C-Voter Exit Poll.
crel2112	@RahulGandhiCongress was projected to emerge as a distant second with victory in 12-17 seats
NOTASERF_VASSAL	@RahulGandhiCongress may retain power shows Ground Zero Research

Evaluation Metrics :



Results :

Public Sentiment

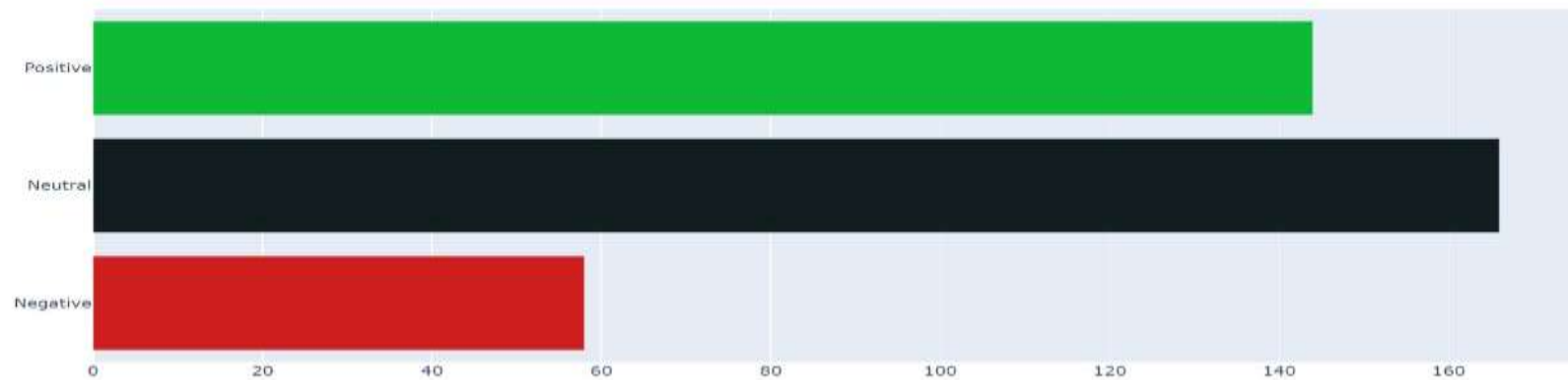


Analysis:

Analysis for congress



Analysis for bjp





Conclusion and Future Scope:

Overall, election result prediction using Twitter data has the potential to revolutionize the way we monitor and understand election outcomes. As social media platforms continue to play an increasingly important role in shaping public opinion and political discourse, the need for accurate and reliable election prediction tools will only continue to grow.

Future research in this area can focus on several directions. First, the development of more sophisticated machine learning algorithms and deep learning models can help improve the accuracy and robustness of election prediction models and also inclusion of spam detection algorithms for erasing the irrelevant data.