Mahavir Education Trust's **Shah & Anchor Kutchhi Engineering College,** Chembur, Mumbai 400 088
UG Program in Computer Engineering

Election Prediction using Social Network Analysis

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Abstract

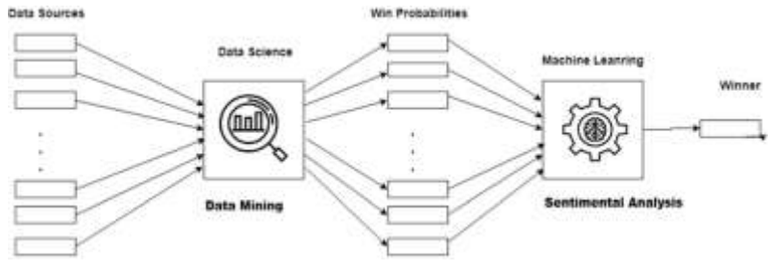
Social network analysis (SNA) is a process of quantitative and qualitative analysis of a social network. SNA measures and maps the flow of relationships and relationship changes between knowledge-possessing entities. Simple and complex entities include websites, computers, animals, humans, groups, organizations and nations. Social network analysis (SNA) focuses on the structure of ties within a set of social actors, e.g., persons, groups, organizations, and nations, or the products of human activity or cognition such as web sites, semantic concepts, and so on. Any social process or system that can be conceptualized as a set of units and a set of lines connecting pairs of units can be studied as a social network. Examples of social structures that have been studied as networks are friendship among children in a school, family relations among members of a social elite, shared board members of corporations, trade relations between countries, and hyperlinks between websites. Our proposed system main motive will be to learn the strategies of both the prominent parties and predict the results of their upcoming Lok Sabha Election Polls of 2019.

Introduction

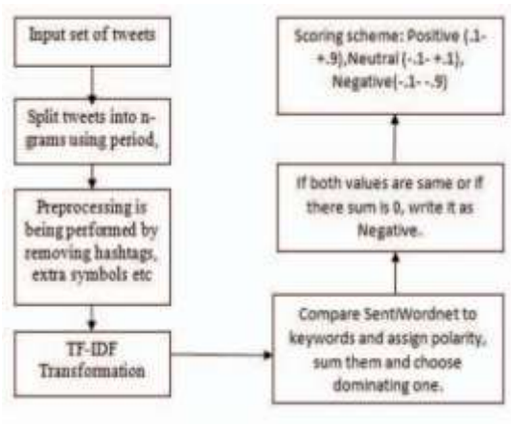
The impact of social media in elections has been studied extensively. Our objective here is to study the social network of the two prominent election candidates for Lok Sabha Elections 2019 – Narendra Modi of Bhartiya Janta Party and Rahul Gandhi of Indian National Congress. The main aim of the project is to understand the reach of both Narendra Modi and Rahul Gandhi among Twitter users and how their social media strategy is helping or affecting their election campaign.
The system's main aim will be to understand the impact of both the leading parties in our country using social media posts via Twitter and Facebook. The System will also understand the social media strategy of both the parties and how it is helping and what is the effect of the strategy on the people and its influence. It will also predict the poll results state-wise and will calculate the prominent candidate's influence in every state using the "Influence Factor" a feature of our system.

Diagram

System Block Diagram :



Data Flow Diagram :



References

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Working / Algorithm

1) Naïve Bayes Classifier

$$P(\text{label} \mid \text{features}) = \frac{\{P(\text{label}) * P(\text{features} \mid \text{label})\}}{P(\text{features})}$$

Label in the above equation shows the polarity or sentiment i.e. positive, neutral and negative, and features are the words which have been extracted from the tweets

2) Influence Factor Formula (Tumasjan's Method)

$$popularity(a) = \frac{pos(a) + neg(b)}{pos(a) + neg(a) + pos(b) + neg(b)}$$

In the above equation, pos(a) and neg(a),pos(b) and neg(b) are the number of positive and negative tweets for candidate a and b respectively.

Conclusion

Project Group

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