“2022 Uttar Pradesh Legislative Assembly Election Result Prediction”

PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF THE DEGREE OF

BACHELOR OF TECHNOLOGY

(Computer Science and Engineering)

SUBMITTED BY

By

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Certificate from Guide

This is to certify that the work incorporated in the project report entitled "**2022 Uttar Pradesh Legislative Assembly Election Result Prediction**" is a record of work carried out by **Prashant Dwivedi** , Roll No. 1804610082 Under my guidance and supervision for the award of B.Tech. Degree in CSE from Dr. APJ Abdul Kalam University, Uttar Pradesh, Luchnow. To the best of my/our knowledge and belief the project report

I. Embodies the work of the candidates themselves,

II. Has duly been completed,

and

III. Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Signature
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ACKNOWLEDGEMENT

It gives us the great sense of pleasure to present the report of the B.Tech. project undertaken during B.Tech. 4th year. I owe special debt of gratitude to **Dr. Saurabh Singh** (Head of Department in Computer Science and Engineering).

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We are grateful to our project guide **Mr Abhishek Singh Sengar** for the guidance, inspiration and constructive suggestions that help us in the preparation in this project.

I also thank my college and colleagues who helped us in successful completion of the project.

Prashant Dwivedi
(1804610082)

OBJECTIVE

Legislative Assembly elections will be held in Uttar Pradesh in month of February to March 2022 to elect 403 members of the Uttar Pradesh Legislative Assembly. The Three big competitors in this elections are Yogi Adityanath(BJP), Akhilesh Yadav(SP), Mayawati(BSP). In this project we will be Predicting Winning Party Name by analysing the sentiments of people for the candidates throughout the social media network (using data from websites like twitter, facebook, instagram).

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INTRODUCTION

Legislative Assembly elections will be held in Uttar Pradesh in month of February to March 2022 to elect 403 members of the Uttar Pradesh Legislative Assembly. The term of current assembly elected in 2017 will expire on 14 May 2022.

The tenure of Uttar Pradesh Legislative Assembly is scheduled to end on 14 May 2022. The previous assembly elections were held in February - March 2017. After the election, Bharatiya Janata Party formed the state government, with Yogi Adityanath becoming Chief Minister.

National Democratic Alliance

During the month of September the NDA confirmed an alliance between BJP, AD(S) and the NISHAD Party. During the month of August the NDA held talks with parties like JD(U), Ham(S) and others however the seat sharing talks fell apart later. In October there were major restructuring efforts by the alliance with new faces and revamp of parties in an effort to battle anti-incumbency in addition the alliance has been struggling with various infighting. In the first 2 weeks of December the alliance launched it champaign for the election.

Samajwadi Party+

RLD was the first to join the alliance. Later Akhilesh Yadav announced that they were only willing to partner up with small parties and not larger parties. Later the NCP and RJD to joined the alliance. Various other smaller parties to joined while SBSP broke away from its alliance to join SP+. During the first seat sharing talks SP agreed to give RLD give 36 seats. Initially RLD demanded 60 seats while SP were willing to give up to 30, later both parties finalised at 36 with RLD mostly competing in West UP. Later it was confirmed that the Aam Aadmi Party has began seat sharing talks with the Samajwadi Party and it is expected to be finalised soon.

Bahujan Samaj Party

Unlike previous years the BSP has announced that it will compete the election all by itself.

PROPOSED WORK

1. Data Collection :

➔ **What exactly is Data Collection ?**

Data collection is defined as the procedure of collecting, measuring and analyzing accurate insights for research using standard validated techniques. A researcher can evaluate their hypothesis on the basis of collected data. In most cases, data collection is the primary and most important step for research, irrespective of the field of research. The approach of data collection is different for different fields of study, depending on the required information.

The most critical objective of data collection is ensuring that information-rich and reliable data is collected for statistical analysis so that data-driven decisions can be made for research.

➔ **Methodology used here for Data Collection :**

Web scraping is a process of using automated bots to crawl through the internet and extract data. The bots collect information by first breaking down the targeted site to its most basic form, HTML text, then scan through to gather data according to some preset parameters. After that, the collected data is delivered in CSV or Excel format, so it is readable for whoever wants to use it. Web scrapers are among the most efficient methos you can employ.

2. Sentiment Analysis :

Sentiment analysis (also known as **opinion mining** or **emotion AI**) is the use of natural language processing, text analysis, computational linguistics, and biometrics to systematically identify, extract, quantify, and study affective states and subjective information. Sentiment analysis is widely applied to voice of the customer materials such as reviews and survey responses, online and social media, and healthcare materials for applications that range from marketing to customer service to clinical medicine. With the rise of deep language models, such as RoBERTa, also more difficult data domains can be analyzed, e.g., news texts where authors typically express their opinion/sentiment less explicitly.

TECHNOLOGIES USED

1. Python –

Python is an object-oriented scripting language which is easy to read, write, maintain and is a free open source tool. It was developed by Guido van Rossum in late 1980's which supports both functional and structured programming methods. Python is easy to learn as it is very similar to JavaScript, Ruby, and PHP. Also, Python has very good machine learning libraries viz. Scikitlearn, Theano, Tensorflow and Keras. Another important feature of Python is that it can be assembled on any platform like SQL server, a MongoDB database or JSON. Python can also handle text data very well .

2. Pandas –

Pandas is mainly used for data analysis. Pandas allows importing data from various file formats such as comma-separated values, JSON, SQL, and Microsoft Excel. Pandas allows various data manipulation operations such as merging, reshaping, selecting, as well as data cleaning, and data wrangling features.

3. Matplotlib -

Matplotlib is an amazing visualization library in Python for 2D plots of arrays. Matplotlib is a multi-platform data visualization library built on NumPy arrays and designed to work with the broader SciPy stack. It was introduced by John Hunter in the year 2002. One of the greatest benefits of visualization is that it allows us visual access to huge amounts of data in easily digestible visuals. Matplotlib consists of several plots like line, bar, scatter, histogram etc.

4. Jupyter Notebook -

The IPython Notebook is now known as the Jupyter Notebook. It is an interactive computational environment, in which you can combine code execution, rich text, mathematics, plots and rich media. For more details on the Jupyter Notebook, please see the Jupyter website.

5. TextBlob Package -

TextBlob is a Python (2 and 3) library for processing textual data. It provides a simple API for diving into common natural language processing (NLP) tasks such as part-of-speech tagging, noun phrase extraction, sentiment analysis, classification, translation, and more.

Sentiment Polarity on all Three Candidates

➔ **What exactly is Sentiment Polarity ?**

It is the expression that determines the **sentiment**al aspect of an opinion. In textual data, the result of **sentiment** analysis can be determined for each entity in the sentence, document or sentence. The **sentiment polarity** can be determined as positive, negative and neutral. Learn more in: Opinion Mining in Tourism: A Study on "Cappadocia Home Cooking" Restaurant
.
A basic task in **sentiment** analysis classifying whether the expressed opinion in a document, a sentence or an entity feature/aspect is positive, negative, or neutral. Learn more in: What Are Basketball Fans Saying on Twitter?: Evidence From Euroleague Basketball's Final Four Event

Sentiment polarity for an element defines the orientation of the expressed **sentiment**, i.e., it determines if the text expresses the positive, negative or neutral **sentiment** of the user about the entity in consideration. Learn more in: Sentiment Analysis as a Restricted NLP Problem

➔ **Methodology used :**

Textblob package in Python is used here for the Sentiment Analysis . Here this package will be used to perform simple text classification in either positive or negative statement on the basis of sentiment analysis .

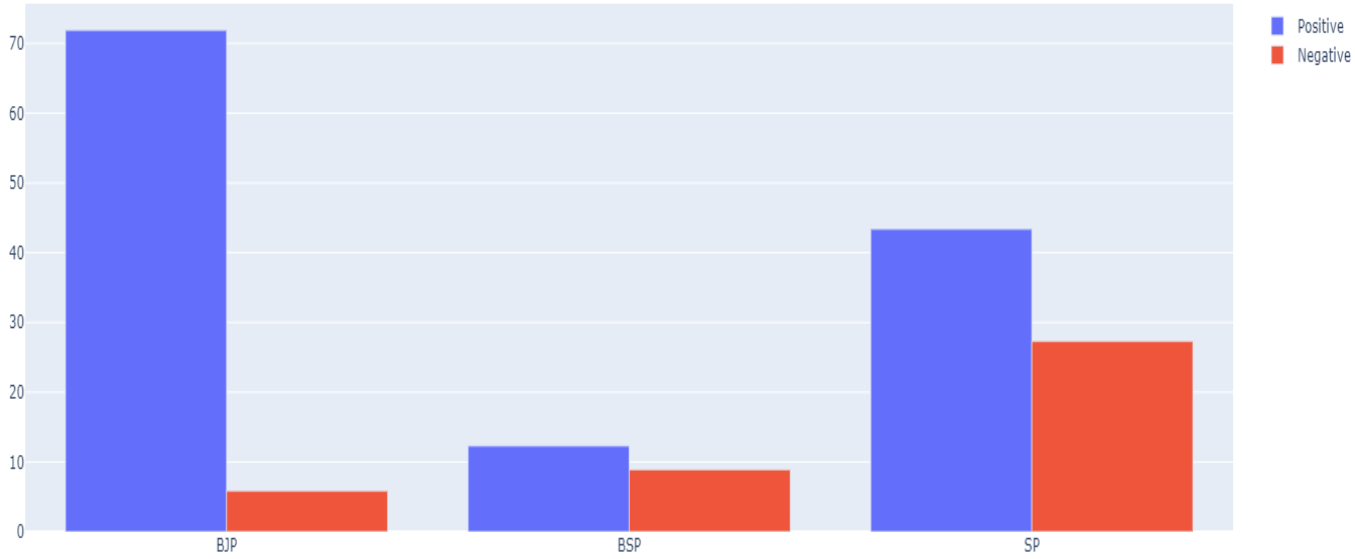
New attribute will be added in both the datasets by the name of "Expression Label" and all the tweets with neutral polarity from the datasets will be droped to balance the data equally. Some data cleaning operations are also performed for easy predict the UP 2022 Elections results.

```
reviews1 = bjp_reviews[bjp_reviews['Sentiment Polarity'] == 0.0000]
cond1 =bjp_reviews['Sentiment Polarity'].isin(reviews1['Sentiment Polarity'])
bjp_reviews.drop(bjp_reviews[cond1].index, inplace = True)
```

CONCLUSION

As We can see BJP is having majority of positive sentiments from the public side , The BJP is likely to enjoy a comfortable victory in Uttar Pradesh even as it may suffer a major loss of seat share in the upcoming state assembly polls, according to this data analysis. As per the opinion poll, the BJP may finish bagging 212-224 seats in the 403-seat state assembly while the Samajwadi Party is expected to win around 151-163 seats.

	Positive Sentiments	Negative Sentiments
BJP	71.9%	5.85%
BSP	12.3%	8.9%
SP	43.4%	27.3%



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