SOCIAL MEDIA SENTIMENT ANALYSIS

Project Overview :

This project focuses on analyzing sentiment patterns in social media data to gain insights into public opinion and attitudes towards specific topics or brands. It involves collecting, preprocessing, analyzing, and visualizing social media posts to understand sentiment trends and their implications.

Problem Statement

Understanding public sentiment on social media is crucial for businesses and organizations to gauge brand perception, customer satisfaction, and identify potential issues or opportunities.

Tools & Technologies

- **Python:** Primary programming language for data analysis and visualization.
- **Pandas & NumPy:** For data manipulation and analysis.
- **NLTK & TextBlob:** For natural language processing (NLP) tasks such as sentiment analysis.
- **Matplotlib & Seaborn:** For data visualization and exploratory data analysis.

Data Collection and Preprocessing

Data Collection

- Utilize APIs (e.g., Twitter API) or web scraping techniques to gather social media posts related to specific topics or brands.

Data Preprocessing

- Clean the text data by removing special characters, URLs, and stopwords.
- Tokenize and normalize text, and perform stemming or lemmatization to reduce words to their base form.

Sentiment Analysis

Sentiment Classification : Use pre-trained sentiment analysis models like VADER or train custom classifiers if labeled data is available.

Visualization Techniques

Word Clouds: Visualize frequently occurring words in different sentiment categories (positive, negative, neutral).

Sentiment Distribution: Visualize the distribution of sentiment categories using histograms or pie charts.

Analysis and Interpretation

Identify Trends: Analyze sentiment trends and patterns to understand shifts in public opinion over time.

Key Insights: Extract insights into public perception, brand sentiment, or topic-specific attitudes based on the analysis.

Conclusion

This project aims to provide actionable insights into public sentiment using data-driven approaches, enabling stakeholders to make informed decisions based on comprehensive sentiment analysis.

GitHub Repository

https://github.com/sravanthi224/PRODIGY_DS_04.git