**Utilising Machine Learning for Efficient Analysis of Customers Perspective from Tweets**

**ABSTRACT**

This project introduces a Twitter Sentiment Analysis system, leveraging principles outlined in a foundational paper on social media sentiment analysis. The system utilizes a Python script employing the Tweepy and TextBlob libraries to extract, process, and analyse tweets from a pre-existing dataset. The sentiment analysis categorizes tweets as positive, negative, or neutral, and the results are presented through both textual output and dynamic visualizations. The system integrates Matplotlib for graphical representations, showcasing the distribution of sentiments through pie and bar charts. Additionally, the project explores the percentage distribution of positive, negative, and neutral tweets. Through a modular and comprehensible design, the proposed system provides insights into the sentiment landscape of Twitter data, offering a valuable tool for sentiment analysis enthusiasts and researchers.

**EXISTING SYSTEM**

Lexicon-Based Approach:

Definition: In a lexicon-based approach, sentiment analysis relies on predefined dictionaries or lexicons that contain words associated with specific sentiment scores (positive, negative, or neutral).

Word Scoring: Each word in a text is assigned a sentiment score based on its presence in the lexicon. The overall sentiment of the text is determined by aggregating the scores of individual words.

Negation and Intensity: Some lexicon-based approaches consider negation (e.g., "not good") and intensity (e.g., "very good") to adjust sentiment scores accordingly.

Rule-Based: Lexicon-based approaches are often rule-based and involve simple algorithms for calculating sentiment scores.

**PROPOSED SYSTEM**

TextBlob ML Approach:

Definition: TextBlob is a natural language processing (NLP) library in Python that provides a simple API for common NLP tasks, including sentiment analysis.

Algorithmic Approach: TextBlob uses a machine learning algorithm to analyse and classify the sentiment of a piece of text. It is based on a Naive Bayes classifier trained on a labelled dataset.

Pre-Trained Model: TextBlob comes with a pre-trained sentiment analysis model, which means it does not require explicit training on a specific dataset for general sentiment analysis tasks.

Strengths: It is suitable for a wide range of natural language processing tasks, and its sentiment analysis capabilities are more versatile than simple lexicon-based methods.

**Minimum System Requirements**

**HARDWARE REQUIREMENTS**

Processor : Dual Core 2 duo

Hard disk : 250 GB

Ram : 2 GB DD Ram

**SOFTWARE REQUIREMENTS**

Front End : HTML, CSS, Python

Back End : MySql 5.5

Operating System : Windows 7

IDE : Spyder or Pycharm