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Department of Computer Science & Engineering(AI &ML)

A Mini Project Review-II Presentation
On

UTILIZING MACHINE LEARNING FOR AN EFFICIENT ANALYSIS OF CUSTOMERS PERSPECTIVE FROM TWEETS

Internal Guide
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ABSTRACT

- This project introduces a Twitter Sentiment Analysis system.
- The system utilizes a Python script employing the Tweepy and TextBlob libraries to extract, process, and analyze 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.

INTRODUCTION

Social media is vital for opinions and daily experiences. Online communities like Twitter shape consumer perspectives and connect businesses directly. Organizations struggle with data extraction in such web-based applications.

Problem Statement:

- Extracting sentiment from massive volumes of informal language, emotions, and short-form communication

Objective:

- Develop a program for sentiment analysis of customer reviews on products from Twitter data.

Applications

Social media is vital for opinions and daily experiences. Online communities like Twitter shape consumer perspectives and connect businesses directly. Organizations struggle with data extraction in such web-based applications.

- It helps businesses grow
- Quality of product can be improved
- Reviews can be automated
- Potential sources of application
- Also can be used in social media

Advantages

- It helps businesses grow
- Quality of product can be improved
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- Potential sources of application
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Disadvantages

- Results cant be accurate always
- Quality of process is highly dependent on data cleaning process
- Can impact small business and labours
- Need of data analyst and data engineers for data cleaning
- Misinformation of foul feed back can impact quality

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 MLApproach

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 analyze and classify the sentiment of a piece of text. It is based on a Naive Bayes classifier trained on a labeled dataset.

Pre-Trained Model: TextBlob comes with a pre-trained sentiment analysis model, which means it doesn't 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.

SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS

Processor : Dual Core 2 duo

Hard disk : 250 GB

Ram : 2 GB DD Ram

SOFTWARE REQUIREMENTS

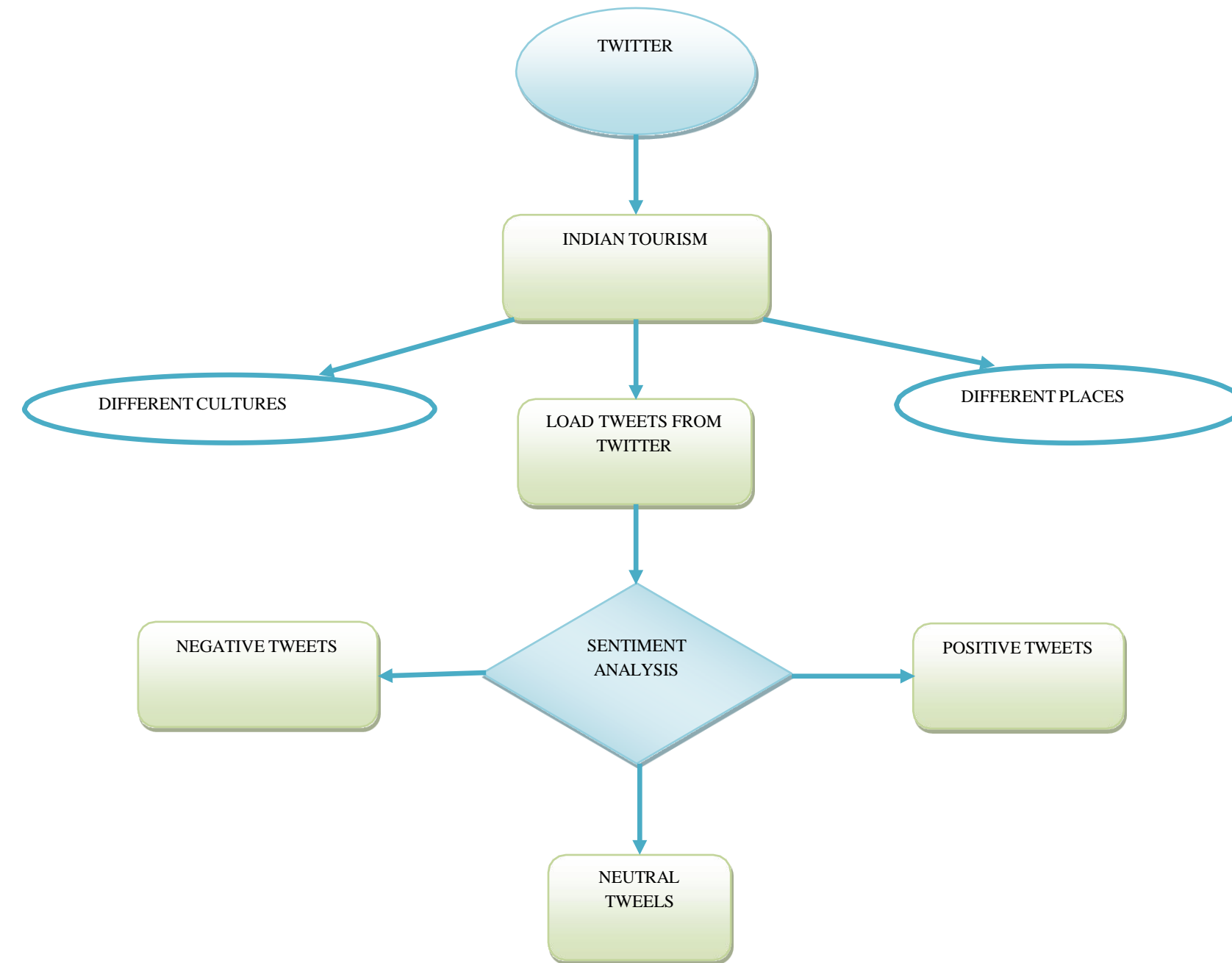
Front End : HTML, CSS, Python

Back End : MySql 5.5

Operating System : Windows 7

IDE : Spyder, Pycharm

System Architecture



FUTURE ENHANCEMENT

An adaptive ensemble member weighting process is designed to emphasize the importance of different ensemble members, and avoid the effect of deleterious ensemble members.

The future internet comes with high requirements of information dissemination, which motivate the research community to find alternative solutions.

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Thank

You
