Project Report: Sentiment Analysis

Internship Project â€“ CodeAlpha

Title:

Sentiment Analysis Using Python (TextBlob)

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GitHub Repository:

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1. Introduction

Sentiment Analysis is a technique in Natural Language Processing (NLP) that involves determining whether a piece of text is positive, negative, or neutral. This project implements sentiment analysis using Python and the TextBlob library.

2. Objective

To develop a simple and efficient sentiment analysis tool using TextBlob that classifies user reviews as positive, negative, or neutral.

3. Technologies Used

- Python

- TextBlob

- Pandas

- Jupyter Notebook

4. Dataset

- Source: Sample or custom dataset containing text reviews and their respective sentiments.

- Data includes short sentences, tweets, or reviews labeled manually.

5. Data Preprocessing

- Text normalization (lowercasing)

- Removal of punctuation

- Tokenization (handled by TextBlob internally)

6. Model Used

TextBlob, a library built on top of NLTK and Pattern, provides an inbuilt sentiment classifier.

7. Results

- Example sentence: "I love this product!" â†’ Sentiment: Positive

- Example sentence: "This is the worst experience." â†’ Sentiment: Negative

- Simple and fast implementation with satisfactory results

8. Challenges Faced

- Handling sarcasm and mixed sentiments

- Working with limited dataset size

9. Conclusion

TextBlob makes it easy to build a quick sentiment analyzer for small-scale applications. Itâ€™s ideal for basic sentiment classification and prototyping.

10. Future Enhancements

- Incorporate more advanced models like VADER or BERT for better accuracy
- Deploy the model with a GUI using Streamlit or Flask