GOVERNMENT ENGINEERING COLLEGE, RAIPUR

Overview of Minor Project

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Aim - Sentimental Analysis for Customer Feedback

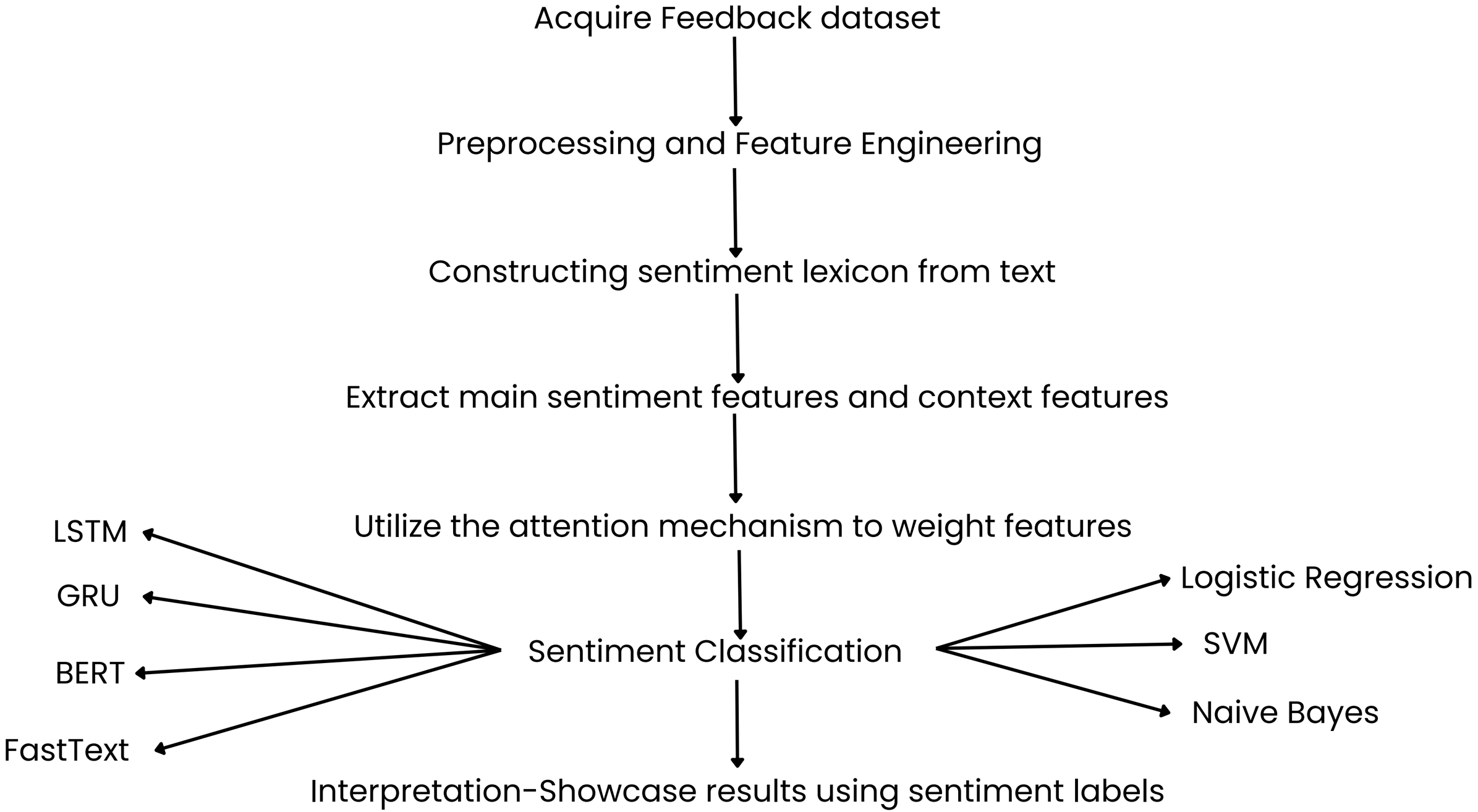
Introduction: Sentiment Analysis, also known as Opinion Mining, is a Natural Language Processing (NLP) technique that involves determining and categorizing the emotional tone, opinions, or attitudes expressed in text data.

Overview: Analysing customer feedback on E-commerce platform to derive insights on overall customer satisfaction to help elevate user experience and platform excellence.

Tools and Technology Used: Python, TensorFlow, scikit-learn, Google Colab

- **NLP Techniques:** Sentiment lexicons, word embeddings, deep learning models.
- **Machine Learning:** Algorithms like Logistic Regression, Naive Bayes, Support Vector Machines, LSTM, Bi-GRU.

FLOW CHART


Acquire Feedback dataset
Preprocessing and Feature Engineering
Constructing sentiment lexicon from text
Extract main sentiment features and context features
Utilize the attention mechanism to weight features
LSTM
GRU
BERT
FastText
Sentiment Classification
Logistic Regression
SVM
Naive Bayes
Interpretation-Showcase results using sentiment labels

DEMONSTRATION

Fig: Display results using labels- Positive, Neutral, Negative

FUTURE SCOPE

1. Personalized Shopping Experiences

Utilize sentiment analysis to tailor product recommendations and marketing strategies for individual customers, enhancing user satisfaction and increasing sales.

2. Sentiment-Based Pricing Strategies

Implement dynamic pricing models that respond to customer sentiment and demand fluctuations, optimizing revenue and customer loyalty.

3. Real-time Customer Support

Offer proactive, AI-driven customer support based on sentiment analysis of user inquiries, improving query resolution and overall service quality.

4. Product Quality Assurance

Employ sentiment analysis to evaluate customer feedback on product quality and identify areas for improvement in manufacturing and design.

Thank You!