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Final Project

PROJECT TITLE

Extracting Sentiment from Textual Data

AGENDA

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PROBLEM STATEMENT

Develop a robust sentiment analysis model capable of accurately extracting sentiment polarity (positive, negative, neutral) from diverse textual data sources, employing state-of-the-art natural language processing techniques to provide valuable insights for decision-making and strategic planning.

PROJECT OVERVIEW

Objective:
The primary objective is to design and implement a sentiment analysis solution that effectively processes unstructured textual data and classifies sentiment with high accuracy. This involves developing algorithms, preprocessing data, training and evaluating models, customizing for domain-specific needs, deploying a user-friendly interface, and considering ethical implications.

Deliverables:
Sentiment analysis algorithms and models.
Preprocessed datasets.
Model evaluation results.
Sentiment analysis system with a user-friendly interface.
Comprehensive project report and documentation.

Conclusion:
This project aims to advance sentiment analysis techniques, providing practical tools for extracting sentiment from textual data. Accurate sentiment analysis facilitates data-driven decision-making and strategic planning, benefiting businesses, organizations, and researchers in understanding public opinion, customer feedback, and market trends.

WHO ARE THE END USERS?

Businesses across various industries
Market researchers
Social media managers
Customer support teams
Policy makers and government agencies
Researchers and academics
Individuals such as bloggers, journalists, and influencers

YOUR SOLUTION AND ITS VALUE PROPOSITION

Solution Overview:

Our solution for "Extracting Sentiment from Textual Data" encompasses the development of a robust sentiment analysis platform utilizing state-of-the-art natural language processing (NLP) techniques. This platform accurately analyzes textual data from various sources and categorizes sentiment polarity into positive, negative, or neutral.

THE WOW IN YOUR SOLUTION

Accuracy: Our solution ensures precise sentiment analysis through advanced NLP algorithms, enabling users to trust the insights derived for informed decision-making.
Scalability: With the ability to handle large volumes of data, our platform is suitable for businesses with diverse data sources and high throughput requirements.
Customization: We offer flexibility for domain-specific customization, allowing users to tailor sentiment analysis models to their industry or use case, enhancing relevance and applicability.
Efficiency: Our platform emphasizes efficiency in processing and analyzing textual data, providing timely insights crucial for real-time decision-making.
User-Friendly Interface: Featuring an intuitive interface, our platform is accessible to users with varying technical backgrounds, ensuring ease of adoption and utilization.
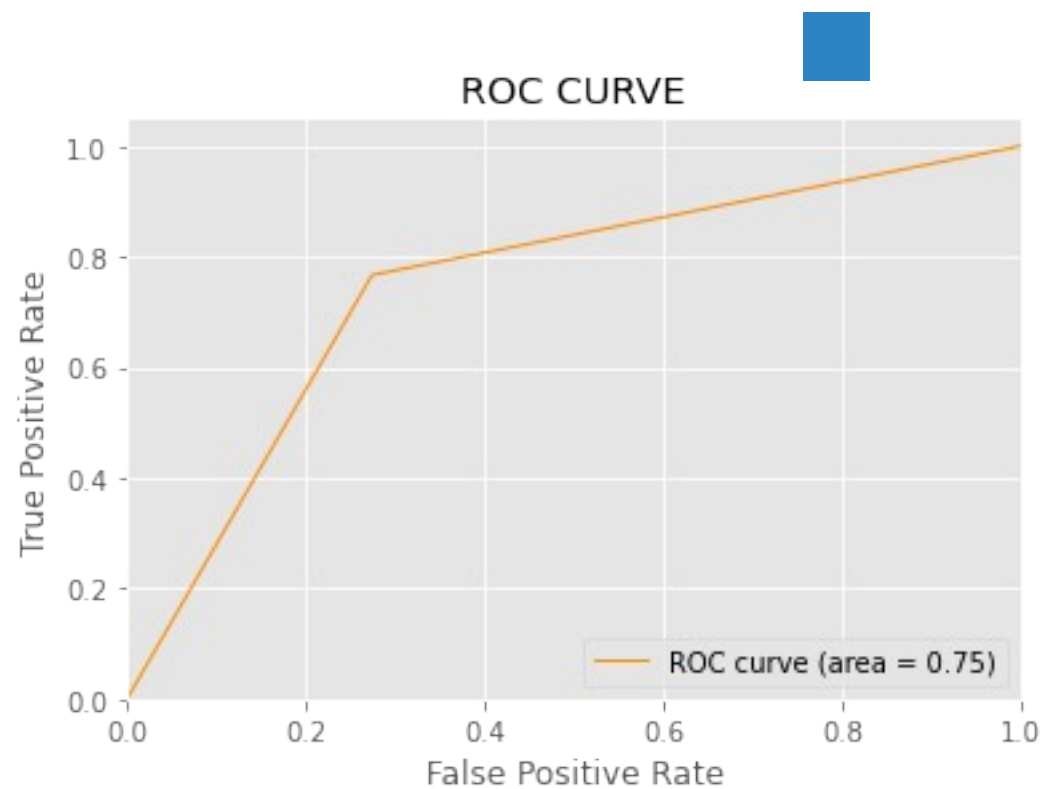
MODELLING

Teams cam add wireframes

Data Model: Define the structure of the data you'll be working with. This could include the format of textual data, labels for sentiment polarity (positive, negative, neutral), and any additional metadata.
Sentiment Analysis Model: Research and select appropriate natural language processing (NLP) techniques and algorithms for sentiment analysis. This could involve techniques such as machine learning (e.g., supervised learning with classifiers like SVM or deep learning with models like LSTM) or rule-based approaches.
Evaluation Metrics: Determine the metrics you'll use to evaluate the performance of your sentiment analysis model, such as accuracy, precision, recall, F1 score, and confusion matrix.

RESULTS

ROC CURVE

True Positive Rate vs False Positive Rate

ROC curve (area = 0.75)

Demo Link