

Vision Document



PROJECT NAME – SAP
reviews

Project Vision Document

Project Title: Sentiment Analysis of Product Reviews

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1. Project Overview

The "Sentiment Analysis of Product Reviews" project is designed to create a comprehensive sentiment analysis system for product reviews. Leveraging natural language processing (NLP) techniques and machine learning, this system will automatically classify reviews as positive, negative, or neutral. The project addresses the need for understanding customer sentiment more effectively and

making data-driven decisions to enhance product quality and customer satisfaction.

2. Project Goals

The primary goals of the project encompass the following:

- Develop an advanced sentiment analysis model that achieves high accuracy and supports aspect-based sentiment analysis.**
- Analyze a diverse dataset comprising 20,000 product reviews sourced from e-commerce platforms, social media, and customer feedback forms.**
- Create an intuitive web-based user interface that facilitates easy submission of reviews for analysis and provides interactive visualization of insights.**
- Deliver actionable insights by extracting not only overall sentiment but also identifying specific product features or aspects that drive sentiment.**

3. Scope

The project's scope includes:

- **Comprehensive data collection from multiple sources, encompassing customer reviews, social media posts, and feedback forms.**
- **In-depth data preprocessing involving text cleaning, tokenization, lemmatization, and the removal of stopwords and special characters.**
- **Machine learning model development with a focus on deep learning techniques such as recurrent neural networks (RNNs) and transformer models.**
- **User-friendly web interface development for the submission of reviews and the retrieval of sentiment analysis results.**
- **Creation of interactive reports and visualizations, including word clouds, sentiment distribution charts, and aspect-based sentiment heatmaps.**

4. Functional Requirements

The project's functional requirements include:

- **Aggregating data from a variety of sources, ensuring data quality and integrity.**
- **Utilizing advanced NLP techniques and deep learning models for sentiment analysis.**
- **Providing a user-friendly web interface for review submission and analysis result retrieval.**

- **Generating detailed reports, including overall sentiment scores, aspect-based sentiment, and actionable insights.**
- **Enabling the selection of specific products or product categories for analysis.**

5. Non-Functional Requirements

The non-functional requirements encompass:

- **Implementing robust security measures to safeguard sensitive customer data.**
- **Ensuring scalability to accommodate large volumes of data and concurrent user requests.**
- **Designing an intuitive and responsive user interface for seamless interaction.**
- **Optimizing system performance to achieve efficient analysis and fast response times.**
- **Complying with ethical data usage and privacy standards.**

6. Project Risks

Potential project risks include:

- **Data quality and consistency issues stemming from various data sources.**

- **Ensuring the availability of sufficient computing resources for data processing and model training.**
- **Adhering to ethical data usage and privacy regulations, especially when handling customer reviews.**
- **Possible changes in project scope or requirements based on stakeholder feedback.**
- **Technical challenges related to the development of deep learning models and the creation of a user-friendly interface.**

7. Project Timeline

**The project is estimated to be completed over 3 months.
Till February 2024**

8. Budget

The required budget will be discussed after production.

Thank you..