

ReviewRadar

Leveraging NLP for Targeted Product Enhancement

Team Members

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Overview

In today's digital era, online reviews play a pivotal role in shaping consumer perceptions and influencing purchasing decisions. This project aims to leverage advanced natural language processing techniques to extract valuable insights from a corpus of product reviews, specifically focusing on a smartphone product.

The proposed methodology involves two main steps:

1. Topic modelling using Non-negative Matrix Factorization (NMF) to categorise reviews into distinct topics
2. Sentiment analysis using VADER to determine the sentiment polarity of each review.

The ultimate goal is to provide actionable insights to the product company by highlighting negative aspects of the product, enabling targeted improvements and enhancing overall customer satisfaction.

Tech Stack

Frontend: ReactJS

Backend: Flask

Version Control System: Github

DevOps Pipeline Tools

CI/CD - Jenkins

Containerization - Docker or Kubernetes

Configuration Management - Ansible

Monitoring - ELK Stack

Why MLOps?

- MLOps, or Machine Learning Operations, is crucial for this project to ensure its scalability, reproducibility, and reliability.
- As the project involves handling large volumes of textual data, MLOps practices such as version control, automated testing, and continuous integration/deployment

(CI/CD) pipelines are necessary to manage the entire lifecycle of the machine learning models effectively.

- Furthermore, MLOps facilitates seamless integration with production systems, enabling real-time analysis of incoming reviews and timely feedback to the product company.
- By adopting MLOps principles, the project can streamline the development process, enhance model performance, and ensure robust deployment in a production environment, thereby maximising the value derived from the analysed reviews.