COMMENTS AND REVIEW ANALYZER

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The goal of the Comment and Review Analyzer project is to automatically collect and analyze user-generated content from platforms like YouTube and Amazon. It aims to extract meaningful insights using sentiment analysis, translation, and summarization to support data-driven decision-making. The system also provides a user-friendly interface for visualizing feedback trends and product performance.

Introduction

User-generated content like YouTube comments [3] and product reviews offers rich insights into public sentiment and behavior. However, its unstructured, multilingual, and informal nature makes manual analysis difficult and unreliable. The Comment and Review Analyzer addresses this by combining web scraping, sentiment analysis [1], translation, and summarization into one platform. Using advanced NLP models like BERT and BART, it delivers fast, accurate, and actionable insights for smarter decision-making.

Problem Statement

Businesses and creators face challenges in extracting meaningful insights from the massive, unstructured, and multilingual user feedback on platforms like YouTube and Amazon. Manual analysis is inefficient and traditional tools lack contextual understanding. The Comment and Review Analyzer solves this by automating sentiment analysis, translation, and summarization for scalable, actionable insights.

Method

The Comment and Review Analyzer processes feedback from YouTube and Amazon to extract meaningful insights using NLP [3]. It automates data scraping, sentiment analysis, and summarization, offering a unified dashboard for content creators, businesses, and sellers.

- **YouTube Analysis:** Takes a video link, fetches comments via API, preprocesses text, and performs sentiment analysis.
- **Amazon Review:** Accepts a product link, scrapes and summarizes reviews to give a quick overview of customer sentiment [1].
- **Amazon Seller Dashboard:** Uses a seller ID to gather and process product data, providing seller-wide performance metrics.

All results are visualized, enabling users to interpret large volumes of feedback [2] quickly and effectively.

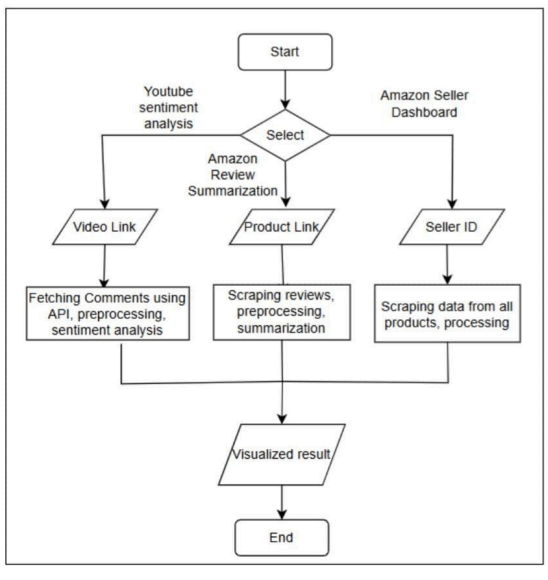

Fig. 1 Flowchart

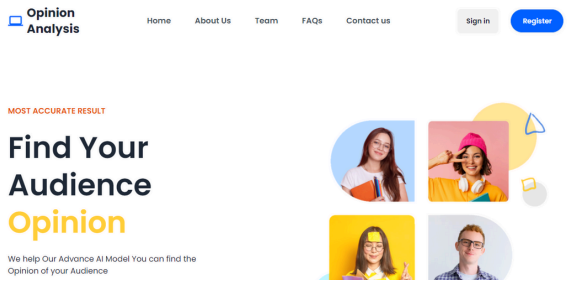

Fig. 2 Home Page

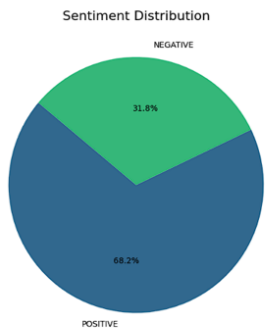

Fig. 3 Amazon Review Sentiments

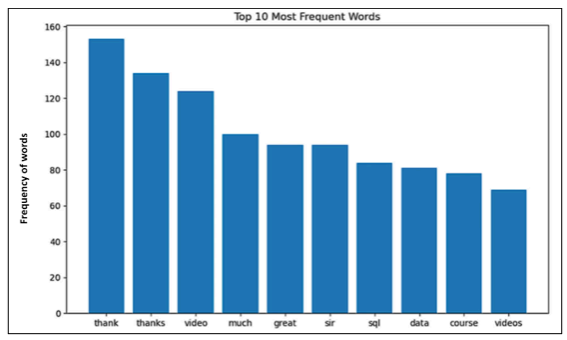

Fig. 4 Most Frequent words

Conclusion

The Comment and Review Analyzer project effectively combines web scraping, sentiment analysis, topic modeling, and generative AI to transform unstructured feedback into actionable insights. It highlights the importance of layered analysis, system robustness, and adaptable design while reinforcing key machine learning and NLP concepts. The project lays a strong foundation for future research, enterprise deployment, and further expansion into advanced models and scalable architectures.

References

[1] Wankhade, M., Rao, A.C.S. & Kulkarni, C. A survey on sentiment analysis methods, applications, and challenges. Artif Intell Rev 5780 (2022).

[2] D. C. Youvan, "Understanding sentiment analysis with VADER: A comprehensive overview and application," AI Data Sci. J., Jun. 23, 2024.

[3] R. Singh and A. Tiwari, "YouTube Comments Sentiment Analysis," Int. J. Sci. Res. Eng. Manag. (IJSREM), vol. 5, no. 5, May 2021, ISSN: 2582-3930.