

ABSTRACT

SMART SENTIMENT ANALYSIS OF YOUTUBE COMMENTS

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The primary objective of this project is to evaluate and summarize viewers' sentiments, providing insights into overall reactions, common themes, and viewer concerns. This helps content creators understand audience emotions and attitudes, providing feedback for content improvement, ultimately enabling them to refine their content and enhance viewer engagement. To achieve the project objectives, we applied a combination of data collection, preprocessing, and sentiment analysis techniques. Data was gathered using the YouTube API to extract comments, including both textual content and emojis, from selected videos. The system performs NLP techniques such as text cleaning, removal of stop words, and filters the comments by understanding the emotion using sentiment analysis tools like VADER sentiment. Comments categorized as positive express favourable opinions, joy, praise, or overall satisfaction. Negative comments reflect dissatisfaction, technical issues, criticism, or unfavourable opinions. Neutral comments do not convey strong positive or negative emotions. The system provides feedback to the video based on the analysis of the comments and emojis. Furthermore, the project offers an additional feature that allows content creators to download the report generated by the system, which provides valuable insights into viewer sentiments. Using libraries like Python and NLTK (Natural Language Toolkit), the machine is able to understand and analyse the emotions expressed through both text and emojis. This project has important implications for content creators and platform managers. By understanding the sentiment trends in YouTube comments, stakeholders can tailor their content and community management strategies to enhance viewer satisfaction and engagement. Future work could explore the integration of sentiment analysis with other metadata, such as video views and likes, to provide a more comprehensive understanding of user engagement. Additionally, extending the analysis to multilingual comments could further enhance the applicability of the sentiment analysis model.

Keywords: Sentiment Analysis, YouTube Comments, Natural Language Processing, User reviews.

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