Sentimental Analysis using Natural Language Processing (NLP)

Mr. T. Sathis Kumar[1], P. Sai Vishnu Vardhan[2], V. Charan Teja[3], R. Kameswara Rao[4]

Assistant Professor, Department of Artificial Intelligence and Machine Learning[1]

Students, Department of Artificial Intelligence and Data Science[2,3,4]

Dhanalakshmi Srinivasan University, Tiruchirappalli, Tamil Nadu, India

Abstract: *In today's digital age, there is a tremendous amount of text data being produced each day by social media websites, blogs, reviews, forums, and other forms of online communication. Mining this unstructured text data to derive public sentiment, emotions, and attitudes is a key challenge for businesses, governments, and researchers. Sentiment Analysis, being a part of Natural Language Processing (NLP), is all about extracting and identifying subjective information from text data. It has a very crucial role in establishing whether a piece of writing conveys a positive, negative, or neutral emotion.*

This project entitled "Sentiment Analysis Using NLP" offers a comprehensive method for developing a sentiment categorization system with cutting-edge NLP methods. The aim is to create a model that is capable of processing textual inputs and predicting the expressed sentiment accurately. The project starts with the acquisition of datasets from sources like movie reviews, product reviews, and social media comments. These datasets are preprocessed by applying regular NLP procedures such as lowercasing, tokenization, stopword elimination, stemming, and lemmatization in order to have text uniformity as well as minimize noise.

Keywords: Sentiment Analysis, Natural Language Processing (NLP), BERT, LSTM Word Embeddings and TF-IDF

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707

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