
ABSTRACT

Online stores now collect a large amount of client feedback in the form of surveys, reviews, and comments. This feedback is categorized in some circumstances for often underused - despite the fact that customer choice is critical to their business's success. E-commerce websites have evolved in a wide variety of the advantages of marketing for consumers to publish or share their engagement with the obtained goods by writing reviews that include beneficial remarks, thoughts, and product review. Nowadays, a huge quantity of customers have the ability to compare products in digital stores as well as select their topmost selections in automated merchants, for example, Amazon.com and Taobao.com. Sentiment Analysis is widely used as the voice of the client in applications aimed towards displaying and client care. Sentiment extractors, in their top basic framework, categorize communications as having a positive, negative, or occasionally neutral premise. User reviews on e-commerce websites give useful details about the item. Sentiment analysis on the text review contributions in analysing the sentiment of users about the product and predicting product sales. Existing sentiment analysis approaches include Long Short Term Memory (LSTM) and Convolutional Neural Network (CNN)-based methods, which suffer from the threatened gradient and overfitting problems.

In the first study, suggested a classification model based on deep learning techniques for determining the review condition. The findings indicated that the recommended techniques for the client were based on previous reviews, initial assessments, and the solutions provided in response to the client's inquiry audit. Furthermore, it showed the suggested techniques was organized to classify each of the reviews exhibits a remarkable similarity, resembling a human response to the customer. In the second study, proposed Word Embedding Attention (WEA) technique is proposed in Bi-directional Long Short Term Memory (Bi-LSTM) method for increases the performance of the classification. The CNN model is applied to identify the attributes from the input dataset for sentiment analysis. The Balanced Cross-Entropy is proposed to maintain the gradient in the network and solves vanishing gradient problem in the network. The WEA technique provides higher weight to the words having strong relation with class. This technique helps to increases the performance of the model related to class-wise, thus increases the precision and recall value. The CNN feature helps to provide higher performance for less number of training data. The WEA-Bi-LSTM model has 97.4 % accuracy, 86.8 % precision and existing CNN model has 97.1 % accuracy, and 85.4 % precision in sentiment analysis.