

ABSTRACT

The use of social media is increasing every day, which makes sources of information on social media very important. Twitter, a popular social media platform, generates a large amount of user-made content in the form of short messages called tweets. Because of this popularity, the classification of sentiment on Twitter is a challenge for understanding the feelings of users. Word embedding is crucial in sentiment classification to capture contextual information. Multi-channel embedding is a solution to overcome the limitations of word embedding. Multi-channel embedding has been utilized in previous studies using multi-channel embedding CNN. However, the use of CNN methods is still not optimal for capturing sequential dependencies of text. In previous studies, the use of LSTM for sentiment classification has proven to be better than the CNN method. In this study, the multi-channel embedding LSTM method is proposed to improve the classification performance of the previous method. The embedding method are used are GloVe and Fasttext. The evaluation used to test the performance of the model includes accuracy and loss. After experiment, Multi-channel embedding and GloVe can improve the single embedding method with improvement accuracy by 0.51%. By using hyperparameter variation, multi-channel embedding LSTM achieved the best performance with epoch of 5. The best loss was achieved by applying a dropout of 0.5. Compared to previous research, multi-channel embedding LSTM outperformed the previous method, multi-channel embedding CNN, with the best accuracy and loss of 83.54% and 0.37 , respectively.

Keywords: Twitter, sentiment analysis, multi-channel embedding LSTM, GloVe, Fasttext