Abstract

Telkomsel is one of the internet service provider companies that has a mobile-based application called MyTelkomsel which functions to facilitate users in conducting online services independently. Users of the application certainly have their own responses about the application, so that users can provide responses to the application. Therefore, sentiment analysis can be one of the solutions to find out public sentiment towards the application. In this research, the author builds a system for sentiment analysis using word embedding Word2vec, GloVe, FastText to get word representation in vector form with classification using Long Short-Term Memory (LSTM) combined with Synthetic Minority Over-sampling Technique (SMOTE) which can handle data imbalance. The data used comes from user reviews of the MyTelkomsel application found on the Google Play Store. This study compares the performance of several word embedding in LSTM and LSTM-SMOTE classifiers. The results showed the results show that the performance of three-word embedding on the LSTM model is superior compared to the LSTM-SMOTE model. Overall, it was found that the combination of FastText and LSTM gave the best performance compared to the other five combinations with an accuracy value of 89.11%.

Keywords: Sentiment analysis, Word Embedding, Word2vec, GloVe, FastText, LSTM-SMOTE