ABSTRACT

Sentiment analysis regarding the El Niño climate change is a crucial aspect in understanding public perception and response. This enables deeper identification and understanding of sentiments evident in online conversations. Sentiment analysis through deep learning approaches using Recurrent Neural Network (RNN) and Convolutional Neural Network (CNN) with the utilization of GloVe representation techniques was conducted to analyze sentiments related to El Niño on social media. The results of the study indicate that the RNN and CNN methods with the utilization of GloVe provide better sentiment classification related to the El Niño issue in social media data, showing that the use of RNN and CNN models with GloVe features perform better compared to not using GloVe features. The use of the RNN algorithm with a 80:20 split ratio testing produced an accuracy score of 94.90%, recall of 94.90%, precision of 94.94%, and F1-Score of 94.85%. Meanwhile, the use of the CNN algorithm with a 90:10 split ratio testing produced an accuracy score of 94.61%, recall of 93.61%, precision of 94.69%, and F1-Score of 94.58%. This results in the conclusion that sentiment analysis using RNN modeling with GloVe features has better performance compared to CNN modeling, with an average accuracy rate of 94.90%.

Keywords: sentiment analysis, El Niño, RNN, CNN, Glove