

Abstract

Research using Artificial Neural Network (ANN) has been done and developed especially in terms of prediction, classification and detection of an object. One of the developments of ANN is the Recurrent Neural Network (RNN). In this study, it uses one of the architectures of RNN, Long Short Term Memory (LSTM) which is commonly used for deep learning problems. LSTM architecture is implemented to detect the use of abusive sentences in Indonesian text. The dataset used in the study experienced an imbalance in the amount of data in each class so that the addition of data to find out the effect of increasing the amount of data on the results of architectural performance. The stages of work in this research began from dataset development, data pre-processing, abusive sentence detection modeling, training and testing. Testing was carried out on LSTM architecture and it was obtained that this architecture can only predict against the majority class so that the additional use of architecture is Bidirectional LSTM (BiLSTM). The test results showed that BiLSTM is better at classifying sentences because there are forward and backward layers that make the model learning process more complex in knowing the context of sentences and this will improve the accuracy of classification results on each label. In LSTM only produce F1 Score for majority class only of 0.812 while in BiLSTM can already produce F1 Score for all classes.

Keywords: Kalimat Abusive, LSTM, BiLSTM, F1 Score
