

ABSTRACT

Essay-type questions provide a variety of possible answers, making it difficult for teachers to assess answers. The different understanding of each student is one of the causes. This has the potential to cause teacher inconsistency in checking essay answers so that the assessment becomes unobjective. One technology that can overcome this problem is machine learning which is operated automatically with natural language processing (NLP) technology.

This technology can calculate text similarity so that it can produce output in the form of prediction scores. Each method applied to this system has a minimum accuracy target of 70%. The calculation of text similarity in this problem is carried out by 3 methods, including the Nazief-adriani algorithm and the Artificial Neural Network (ANN) model, Boyer Moore and the Artificial Neural Network (ANN) model, and the combination of the Convolutional Neural Network (CNN) & Long short term memory (LSTM) model. After testing, an accuracy of 90% was obtained for the Nazief-adriani algorithm method and the ANN model, while the Boyer Moore method and the ANN model obtained an accuracy of 91%, and an accuracy of 91% was obtained in the CNN and LSTM model combination method.

Based on the accuracy that has been obtained from several methods, it can be seen that the three methods used are good because the accuracy obtained is more than the minimum target accuracy. each method, implemented on the web.

Keyword: Essay, NLP, ANN, Nazief-adriani, Boyer-moore, CNN, LSTM, Website, App