

Abstract

Hadith is the life guidance of the Muslims, second only to the authority of the Qur'an, which makes it necessary to learn. It is good to learn hadith when it is sahih (authentic), one of which is narrated by al-Bukhari. However, there are difficulties found while learning as determining which one is included in the topic of advice, prohibition, and information. Therefore, it is necessary to carry out the multi-label classification to categorize the hadith into topics. Here, researchers used the Convolutional Neural Network (CNN) algorithm. CNN was chosen because it is included in deep learning and its calculation was done in parallel. The result showed that CNN performance without padding and 1 strides using the preprocessing scenario without stemming, obtained the hamming loss value of 0,0693 with model execution time of 67,7613 seconds. It is better than LSTM and RNN which obtained the hamming loss value of 0,1128 and 0,1145 with model execution time of 1006,6985 and 262,8086 seconds.

Keywords: CNN, preprocessing, stemming, hamming loss