



Performance Evaluation of Proposed HBCR Deep Learning Model for Fake News Detection in Social Media

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ABSTRACT

Social media is the primary means by which people in today's culture consume news since it is the simplest and most practical way for people to communicate with one another. There is a chance that this will result in the broad transmission of false information, though. These false reports have a negative impact on the individual and society as a whole. The spread of illnesses and morality are undermined by these erroneous claims, which also fuel criminality and impair people's physical and mental health. It is essential to stop false information at the source in order to stop its spread. This is only possible if there is evidence that the news being reported is reliable and true. The purpose of this paper is to generate true news and accurately identify phony news in order to achieve a faultless output. As a result of previous survey carried out in our previous works, a hybridized system utilizing CNN, RNN, and BERT (HBCR-Hybridized BERT, CNN and RNN) have been proposed for fake news classification. In this proposed HBCR framework the BERT algorithm is used for extracting features from the news stories being posted. CNN deep learning classification technique is used to train the dataset, and RNN-LSTM classification algorithm is utilized to classify and detect fake news by cross-verifying it with FAKES dataset. The results obtained shows that the proposed HBCR system work well for fake news classification and gave us an average accuracy of 99%. The performance of this proposed system has been compared with state of art algorithms like SVM, KNN, Random Forest, BERT, CNN, RNN and combined CNN&RNN. Among all this techniques this proposed HBCR technique has proved to be effective in terms of all the metrics like accuracy, precision, Recall and F1 score.

Keywords: CNN, RNN, BERT, HBCR, fake news detection, evaluation metric, accuracy.

