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# Efficient Fake News Detection Using Machine Learning and Deep Learning Approaches

**Authors :** Chaima Babi, Said Gadri

**Abstract :** The rapid increase in fake news continues to grow at a very fast rate; this requires implementing efficient techniques that allow testing the re-liability of online content. For that, the current research strives to illuminate the fake news problem using deep learning DL and machine learning ML ap-proaches. We have developed the traditional LSTM (Long short-term memory), and the bidirectional BiLSTM model. A such process is to perform a training task on almost of samples of the dataset, validate the model on a subset called the test set to provide an unbiased evaluation of the final model fit on the training dataset, then compute the accuracy of detecting classifica-tion and comparing the results. For the programming stage, we used Tensor-Flow and Keras libraries on Python to support Graphical Processing Units (GPUs) that are being used for developing deep learning applications.

**Keywords :** machine learning, deep learning, natural language, fake news, Bi-LSTM, LSTM, multiclass classification
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