

Title: Enhancing Bangla Fake News Detection Using Bidirectional Gated Recurrent Units and Deep Learning Techniques

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Abstract: The rise of fake news has made the need for effective detection methods, including in languages other than English, increasingly important. The study aims to address the challenges of Bangla which is considered a less important language. To this end, a complete dataset containing about 50,000 news items is proposed. Several deep learning models have been tested on this dataset, including the bidirectional gated recurrent unit (GRU), the long short-term memory (LSTM), the 1D convolutional neural network (CNN), and hybrid architectures. For this research, we assessed the efficacy of the model utilizing a range of useful measures, including recall, precision, F1 score, and accuracy. This was done by employing a big application. We carry out comprehensive trials to show the effectiveness of these models in identifying bogus news in Bangla, with the Bidirectional GRU model having a stunning accuracy of 99.16%. Our analysis highlights the importance of dataset balance and the need for continual improvement efforts to a substantial degree. This study makes a major contribution to the creation of Bangla fake news detecting systems with limited resources, thereby setting the stage for future improvements in the detection process.

Key words: Computation and Language (cs.CL); Machine Learning (cs.LG)

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