

Title: Breaking the Fake News Barrier: Deep Learning Approaches in Bangla Language

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Abstract: The rapid development of digital stages has greatly compounded the dispersal of untrue data, dissolving certainty and judgment in society, especially among the Bengalispeaking community. Our ponder addresses this critical issue by presenting an interesting strategy that utilizes a profound learning innovation, particularly the Gated Repetitive Unit (GRU), to recognize fake news within the Bangla dialect. The strategy of our proposed work incorporates intensive information preprocessing, which includes lemmatization, tokenization, and tending to course awkward nature by oversampling. This comes about in a dataset containing 58,478 passages. We appreciate the creation of a demonstration based on GRU (Gated Repetitive Unit) that illustrates remarkable execution with a noteworthy precision rate of 94%. This ponder gives an intensive clarification of the methods included in planning the information, selecting the show, preparing it, and assessing its execution. The performance of the model is investigated by reliable metrics like precision, recall, F1 score, and accuracy. The commitment of the work incorporates making a huge fake news dataset in Bangla and a demonstration that has outperformed other Bangla fake news location models.

Keywords: Deep learning , Technological innovation , Accuracy , Text categorization , Logic gates , Tokenization , Real-time systems , Planning , Reliability , Fake news

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