Paper Title:
Detection of Bangla Fake News using MNB and SVM Classifier.

Paper Link:
https://ieeexplore.ieee.org/document/9231167

1. Summary

1.1 Motivation
The study investigates the detection of fake news in the Bangla language, as there has been limited research on this topic. The prevalence of fake news, particularly on social media, necessitates the development of effective detection methods.

1.2 Contribution
The paper demonstrates the application of Support Vector Machine(SVM) and Multinomial Naïve Bayes(MNB) classifiers to recognize fake news in Bangla social media. It contributes to the research on fake news detection by focusing on the Bangla language, which has not been extensively studied.

1.3 Methodology
The study uses a dataset of Bangla news articles collected from various sources. The dataset is split into training and testing sets, with 70% used for training and 30% for testing. The researchers use feature extraction methods such as Count Vectorizer and TF-IDF Vectorizer to prepare the data. The classifiers, SVM with a linear kernel and MNB, are trained on the dataset to classify news articles as real or fake.

1.4 Conclusion
The research concludes that the Support Vector Machine with a linear kernel performs better than Multinomial Naive Bayes on the given dataset, achieving an accuracy of 96.64% compared to 93.32% for MNB. The study highlights the potential for further research using hybrid classifiers and larger datasets.

2. Limitations

2.1 First Limitation
The study's reliance on a specific dataset for the training and testing of classifiers may pose a limitation on the generalizability of the results. The dataset, composed of around 2,500 Bangla news articles, may not fully represent the vast diversity of Bangla news available online. As such, the performance of the classifiers may vary when applied to other datasets or different sources of Bangla news, potentially affecting the accuracy and effectiveness of fake news detection.

2.2 Second Limitation
Furthermore, the study focuses on only two machine learning classifiers: Support Vector Machine (SVM) with a linear kernel and Multinomial Naive Bayes (MNB). While these classifiers have shown promising results, exploring other classifiers, including deep learning techniques or hybrid models, may yield different or even superior performance. The use of a limited selection of classifiers may restrict the study's findings in terms of their applicability to broader scenarios of fake news detection.

3. Synthesis
Overall, the paper provides valuable insights into the detection of fake news in the Bangla language using machine learning techniques. The findings suggest that SVM with a linear kernel outperforms MNB in terms of accuracy, highlighting the potential of advanced machine learning algorithms for fake news detection. However, future research could benefit from exploring other classifiers and hybrid approaches, as well as larger and more diverse datasets, to enhance the robustness and applicability of fake news detection in the Bangla language. By continuing to refine these methods, researchers and practitioners can work towards more effective solutions for mitigating the spread of misinformation and its impact on society.