



**IDENTIFYING FAKE NEWS USING MACHINE
LEARNING, ENSEMBLE LEARNING AND DEEP
LEARNING TECHNIQUES**

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Abstract

The rise of digital media and information distribution have created a major challenge—detecting and stopping fake news. This study examines machine learning, ensemble learning, and deep learning methods for fake news detection.

This study addresses fake news and misinformation through a comprehensive literature analysis. Ensemble learning improves fake news detection models by combining a variety of base classifiers. Deep learning architectures like LSTM and Transformers capture complex patterns and temporal connections in textual input.

A curated dataset of actual and fake news is used for testing. The suggested ensemble learning and deep learning methods are extensively assessed utilizing precision, recall, F1-score, and accuracy. Comparative assessments illustrate how well each method distinguishes bogus news from real information.

The results show that ensemble learning can combine classifier insights to improve detection accuracy. Deep learning models also excel at capturing nuanced semantic cues, helping them navigate misinformation.

Addressing content censorship and bias mitigation ethics emphasizes the need for transparency and responsibility in automated false news detection systems.

In conclusion, ensemble learning and deep learning synergize to improve fake news detection. The study develops robust and flexible false news detection methods in an ever-changing digital ecosystem by merging these methodologies. This research provides the foundation for strong protection against misinformation, which continues to plague society.