

Fake News Detection

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Abstract: *In today's rapidly evolving digital landscape, the speed and accessibility with which news is disseminated have reached unprecedented levels. While this enhances the public's ability to access information, it has also led to the proliferation of fake news—deliberately fabricated or misleading information presented as credible. The repercussions of fake news are far-reaching, influencing public opinion, distorting electoral processes, and fostering widespread misinformation. In response to these challenges, this project seeks to develop a robust and efficient fake news detection system capable of identifying and mitigating the spread of false information across various media platforms. The objective of this project is to design and implement a scalable, automated solution that accurately detects fake news. Leveraging state-of-the-art machine learning (ML) and natural language processing (NLP) techniques, along with image verification, the proposed system will analyze the content of news articles, as well as the credibility of their sources. Our methodology involves training sophisticated models on extensive datasets containing both true and false news articles, using supervised learning techniques. A variety of key features—such as linguistic patterns, sentiment analysis, and the reputation of sources—will be extracted to enhance the system's detection accuracy. Moreover, the system will be equipped with real-time updates to adapt to emerging trends and tactics in the dissemination of disinformation. Through the implementation of this advanced detection system, we aim to provide an invaluable tool for individuals and media organizations to effectively combat the spread of fake news. Ultimately, this project seeks to contribute to the development of a more informed, responsible, and reliable media environment.*

Keywords: Natural Language Processing (NLP), Machine Learning (ML), News Verification, Misinformation Detection

