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# A Comprehensive Review of Fake Profile Detection Techniques in Social Media Using Machine Learning

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**Abstract:** *The rise of social media platforms has led to an increase in fake profiles, posing significant security and privacy risks to users. Fake profiles are often used for malicious activities such as fraud, cyberbullying, and misinformation dissemination. This paper provides a comprehensive review of various techniques employed in detecting fake profiles on social media using machine learning. It explores a range of methods, including supervised and unsupervised learning, natural language processing (NLP), and deep learning algorithms, highlighting their strengths, limitations, and performance in real-world applications. Additionally, the paper discusses the challenges faced in fake profile detection, such as data imbalance, evolving tactics of fake profile creators, and the need for scalable solutions. Through this review, we aim to provide insights into the current state of research and suggest potential future directions for improving fake profile detection systems.*

**Keywords:** Fake profile detection, machine learning, social media, deep learning, natural language processing


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