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Leveraging Analysis of Sentiment for Fake News Identification in Cybersecurity: A Machine Learning Approach

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Abstract: *A crucial difficulty in the rapidly changing world of digital communication is maintaining information integrity. This study investigates how machine learning methods can increase the accuracy of cybersecurity sentiment analysis classification. News reports of incorrect identification. It can differentiate between authentic and fraudulent news by analyzing sentiment and emotional trends in user interactions and news content. The emotions of surprise, disdain, and fear are often evoked by false news, whereas anticipation and trust are associated with accurate news. Outperforming traditional classifiers, the Bi-LSTM model obtains high accuracy, AUC, and F1 score. The findings show how effective sentiment-based feature integration is in identifying fake news, providing a viable strategy for reducing disinformation. Multimodal data and explainable AI algorithms can be used in future research to improve real-time detection. Consequently, it has the best accuracy of 96.89% in cybersecurity sentiment false news identification.*

Keywords: component, Fake News, Sentiment Analysis, Cybersecurity, Machine Learning, Social Media

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