IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, November 2024

A Review of Deep Learning Approaches for Cyberbullying Detection: Focusing on LSTM Models

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Abstract: *This review paper explores the application of advanced machine learning techniques, particularly Long Short-Term Memory (LSTM) models, for detecting cyberbullying on social media platforms. With the increasing prevalence of cyberbullying, it has become essential to develop effective methods for identifying harmful content in real-time. LSTM models, known for their ability to process sequential data and capture long-term dependencies, are well-suited for analyzing text data from social media. The paper discusses various approaches for implementing LSTM-based systems, evaluates their performance, and highlights the challenges faced in cyberbullying detection, including data imbalance, privacy concerns, and real-time processing requirements. Additionally, it reviews the impact of data preprocessing, feature extraction, and model optimization techniques in enhancing the accuracy of detection systems, ultimately providing a comprehensive understanding of the state-of-the-art methods in the field.*

Keywords: Cyberbullying, LSTM Models, Social Media, Machine Learning, Real-time Detection