

Hybrid Multimodal Hate Speech Detection Using Deep Learning with Emotion, Sarcasm, and Image Analysis

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Abstract: *Rise of hate speech on online platforms poses significant challenge for digital safety and user well-being everywhere nowadays apparently. Traditional text-based detection systems frequently falter in identifying subtle expressions like sarcasm and emotional tone embedded deeply in social media images. A hybrid multimodal deep learning approach integrating text emotion sarcasm and image analysis improves hate speech detection accuracy remarkably well nowadays. Proposed system heavily relies on natural language processing techniques extracting semantic features from textual data and convolutional neural networks interpret visual elements effectively. Additionally, emotion recognition and sarcasm detection models are incorporated to capture contextually subtle or implicit hate speech. Through comprehensive experiments on benchmark multimodal datasets, our hybrid model demonstrates superior performance compared to unimodal baselines. The findings highlight the importance of incorporating diverse modalities and contextual cues in building more robust and ethical hate speech detection systems*

Keywords: Hate speech detection, multimodal learning, deep learning, emotion analysis, sarcasm detection, image analysis, natural language processing (NLP), convolutional neural networks (CNN), hybrid model, social media analysis, sentiment analysis, transformer models, BERT, attention mechanisms, multimodal fusion, online content moderation, cyberbullying detection, offensive language identification, neural networks, ethical AI.

