Deepfake Video Detection using Machine Learning

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Abstract: *With deepfake technology becoming more advanced, fake videos can now be created with high accuracy, making them hard to detect and raising concerns over privacy and misinformation. This research focuses on developing a machine learning model to detect deepfakes, aiming to provide a reliable tool for identifying manipulated videos. Using convolutional neural networks (CNNs), our approach analyzes frames of video content from well-known datasets like FaceForensics++ to detect any tampering. We evaluated the model's effectiveness by measuring its accuracy, precision, recall, and F1-score, achieving results that suggest strong detection performance. This study's findings highlight the potential of machine learning in combating the misuse of deepfake technology and suggest possible future improvements, such as model refinement and adaptation to new types of deepfake techniques*

Keywords: Deepfake Face, LSTM, ResNext, CNN, RNN.