Detection of Deep Fake Videos using CNN and GRU Algorithms

D Aswani, P Kalyani, S Ushasri, T Vyshnavi, S Akshay

Department of Computer Science and Engineering

ACE Engineering College, Ghatkesar, Hyderabad

Abstract: *In the era of digital communication, deepfake technology poses a critical threat to the integrity of information disseminated online. These AI-generated videos, capable of realistically depicting individuals saying or doing things they never did, have significant implications for public discourse, human rights, and the authenticity of digital media. The potential misuse of deepfakes for misinformation, manipulation, harassment, and coercion necessitates advanced solutions for their detection. Addressing this challenge, we are developing a deepfake video detector leveraging the capabilities of Gated Recurrent Units (GRUs). Our approach utilizes GRU's sequential processing abilities to analyze video frames for subtle inconsistencies typical of deepfaked content. By focusing on pixel-level discrepancies and temporal anomalies that are often imperceptible to the human eye, our model offers a promising solution to identifying manipulated media. This work not only contributes to the technological fight against digital misinformation but also underscores the importance of cross-sector collaboration in safeguarding the veracity of online media. Our findings illuminate the path for future research and development in the field, highlighting the critical role of advanced machine learning techniques in maintaining the credibility and security of digital communications..*

Keywords: Deepfake detection, Gated Recurrent Units (GRUs), Sequential processing, Video frame analysis, Pixel-level discrepancies, Temporal anomalies, Manipulated media, AI-generated videos, Machine learning techniques, Digital misinformation, Information integrity, Digital media authenticity.

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-27318

140

ISSN
2581-9429
IJARSCT