

Deepfake Detection System through Collective Intelligence in Public Blockchain Environment

Authors : Mustafa Zemin

Abstract : The increasing popularity of deepfake technology poses a growing threat to information integrity and security. This paper presents a deepfake detection system designed to leverage public blockchain and collective intelligence as solutions to address this issue. Utilizing smart contracts on the Ethereum blockchain ensures secure, decentralized media content verification, creating an auditable and tamper-resistant framework. The approach integrates concepts from electronic voting, allowing a network of participants to assess content authenticity collectively through consensus mechanisms. This decentralized, community-driven model enhances detection accuracy while preventing single points of failure. Experimental analysis demonstrates the system's robustness, reliability, and scalability in deepfake detection, offering a sustainable approach to combat digital misinformation. The proposed solution advances deepfake detection capabilities and provides a framework for applying blockchain-based collective intelligence to other domains facing similar verification challenges, thereby contributing to the fight against digital misinformation in a secure, trustless environment.

Keywords : deepfake detection, public blockchain, electronic voting, collective intelligence, Ethereum

Conference Title : ICISD 2025 : International Conference on Information Systems Development

Conference Location : London, United Kingdom

Conference Dates : April 10-11, 2025