

THE DEEPFAKE DETECTION (UTILIZING FILES FACE-API.JS, INDEX.HTML, VIDEO-DEEPFAKE.JS) FOR ACCURATE FACE RECOGNITION

Kiruthiga

Arun Varshan SDR

Deepan Kumar S

Aakash A

Department of IT

SRM Institute of Science and Technology, Ramapuram

Chennai, India

This research paper explores the integration of face security the deepfake analysis using the 'face-api.js' framework, employing files such as 'face-api.js', 'index.html', and 'video-deepfake.js'. The study emphasizes the framework's effectiveness in establishing robust face recognition mechanisms and detecting human , alongside addressing the challenges posed by deepfake manipulation. A novel Face Accuracy Metrics formula is introduced to evaluate recognition correctness, with a focus on accurate facial feature extraction and real-time face detection. Motivated by the need for secure authentication and the identification of synthetic media in web applications, the research utilizes pre-trained models: 'ssd_mobilenetv1_model', 'face_landmark_68_model', 'face_recognition_model', and 'tiny_face_detector_model' for face detection, landmark identification and recognition.

The methodology incorporates role-based user assignments, advanced AI/ML algorithms, and countermeasures against deepfake and spoofing attacks. Experimental results highlight the system's capability to achieve high accuracy in detecting both authentic and synthetic faces, This research contributes valuable insights into developing resilient AI/ML-driven authentication and media verification systems, addressing the critical challenges posed by deepfake technology and enhancing security in the digital landscape.