**Deepfake audio – an ai-based system for deepfake audio detection**

SE-D-9

Eden Edry ; edened2@ac.sce.ac.il   
Noa Rofe ; noaro2@ac.sce.ac.il

Advisor: Ms. Alona Kutsyy

SCE - Shamoon College of Engineering, Be'er-Sheva

Deepfake technology poses threats to security, privacy, and trust, with audio manipulation becoming a growing concern. While deepfake detection in images and videos has advanced, identifying synthetic audio remains challenging. Deepfake Audio is an artificial intelligence (AI)-powered platform designed to detect and analyze deepfake audio. The system leverages machine learning (ML) and deep learning (DL) techniques, including spectral analysis and anomaly detection, to distinguish between real and manipulated audio. It processes speech, extracts acoustic features, and applies classification models to verify authenticity. Users benefit from real-time analysis, confidence scores, and an intuitive interface. Deepfake Audio enhances cybersecurity, protects media integrity, and raises awareness of deepfake risks. It also serves as an educational tool to improve digital literacy regarding synthetic media.

Keywords: cybersecurity, deep learning (dl), deepfake audio, education, machine learning (ml), media integrity