Deepfake Video Detection – A System That Identifies AI-Generated Deepfake Videos

The **Deepfake Video Detection System** is an **AI-powered tool** that detects whether a video has been altered using **deep learning techniques**. With the increasing misuse of deepfake technology for misinformation and fraud, this project aims to provide a **reliable method for identifying manipulated videos**.

Key Features:

- **Deep Learning-Based Detection** – Uses convolutional neural networks (CNNs) and transformers to analyze videos.
- **Frame-by-Frame Analysis** – Examines inconsistencies in facial expressions, lighting, and image distortions.
- **Dataset Training & Real-Time Detection** – Trained on deepfake datasets such as **DFDC, FaceForensics++, and Celeb-DF**.
- **Confidence Score & Explainability** – Provides a percentage-based likelihood of a video being fake.
- **API Integration** – Can be integrated into social media platforms, news agencies, and legal organizations.

The system is developed using **Python, TensorFlow/PyTorch, OpenCV, and Flask/Django**. The AI model runs **real-time deepfake detection** and provides detailed insights into manipulated video regions.

This project helps combat **digital misinformation and fraudulent deepfake content**, ensuring **media authenticity and cybersecurity**.