AMITY SCHOOL OF ENGINEERING & TECHNOLOGY

Project Synopsis – B. Tech CSE

Group No.: 235
Project Title: RealityCheck AI – Fake Profile Detector
Academic Session: 2025–26
Project Guide: Dr. Akanshi Gupta

Details of Project Team

Program: B. Tech CSE

Year/Semester: 4th Year / 7th Semester
Team Members:

S. No.	Enrollment No.	Name	Signature
1	A2305222679	Sumit Kumar Verma	
2	A2305222682	Suhani Sidhu	

Abstract / Project Summary

This project proposes the development of **RealityCheck AI**, an intelligent system to detect and flag **fake or AI-generated profiles** on social media, dating platforms, and recruitment portals. It combines **deep learning, facial geometry analysis, EXIF metadata inspection, and natural language processing (NLP)** to identify patterns that signal non-human or manipulated profiles.

The system is designed to detect faces generated using GANs (like StyleGAN), bios written by AI tools such as ChatGPT, and images lacking real-world metadata. A **Trust Score** is generated for every profile based on image authenticity, metadata presence, and bio language analysis. This ensures platforms and users get a transparent, explainable output.

The application is built using Flask (for backend API), React (for frontend dashboard), and various AI models. This solution is highly relevant in today's digital era where AI-generated content is increasingly used for phishing, scams, and misinformation.

Methodology to be Adopted

The system development will follow Agile with the following phased approach:

- **Phase 1:** Dataset collection (GAN faces, real profiles, bios)
- **Phase 2:** Deep Learning Model Setup (YOLOv8 + StyleGAN detector)
- **Phase 3:** EXIF Metadata Analysis Module (using ExifTool)
- **Phase 4:** Bio/NLP Classifier (GPTZero or similar tool)
- **Phase 5:** Trust Score Calculation Logic
- **Phase 6:** Flask + React Integration
- **Phase 7:** Testing, Evaluation, and Final Report.

Resource Requirement

Hardware:

- Laptop/Desktop with 8GB+ RAM
- Optional: GPU-enabled system / Google Colab for training

Software:

- Python 3.10+, Flask, React.js, OpenCV
- ExifTool, DeepFace, YOLOv8, GPTZero
- MySQL/PostgreSQL (for database)
- GitHub, VS Code, Jupyter

Justification of the Project

- **Real-world Problem:** Rise of fake profiles used in scams, phishing, and misinformation.
- **AI-Powered Detection:** Combines facial analysis, metadata, and text classification.
- **Usability:** Provides a user-friendly trust score and API for integration.
- **Innovation:** Multi-layered detection combining image, text, and metadata signals.
- **Research Potential:** Can be expanded to include voice, video, and cross-platform analysis.

PERT Chart/Schedule of Project Completion

Phase	Task	Duration
1	Dataset collection & preprocessing	10 days
2	Face model (YOLO/StyleGAN) setup & training	12 days
3	EXIF Metadata Checker Module	7 days
4	Bio/NLP Analyzer Module	10 days
5	Trust Score Generator logic	6 days
6	Flask API + React Frontend integration	10 days
7	Testing + Bug Fixing	6 days
8	Final Report Writing + PPT + Packaging	7 days

Total Duration: 68 Days

References

- **StyleGAN Fake Dataset: https://github.com/NVlabs/stylegan2**
- **DeepFace Library: https://github.com/serengil/deepface**
- **ExifTool: https://exiftool.org/**
- **GPTZero: https://gptzero.me**
- **YOLOv8 Documentation: https://docs.ultralytics.com/**
- **GPT/OpenAI APIs: https://platform.openai.com/docs**
- **Flask Docs: https://flask.palletsprojects.com**
- **Kaggle Deepfake Dataset: https://www.kaggle.com/datasets/**

Signatures of Project Team | Name & Signature of Project Guide

Date: