

MAJOR / MINOR PROJECT ABSTRACT [Form - 1] (YEAR - 2025)

NAME OF LAB COORDINATOR: Mrs. Rida Raval

TITLE OF PROJECT: Image Segmentation & Recognition

PROJECT TRACK: (Tick the appropriate one / ones)

1. R&D (Innovation)	2. CONSULTANCY (Fetched from Industry)	3. STARTUP (Self-Business Initiative)	4. PROJECT POOL (From IBM / INFOSYS)	5. HARDWARE / EMBEDDED
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BRIEF INTRODUCTION OF PROJECT:

This project aims to build a facial recognition-based personal identification system using image segmentation & classification techniques. It addresses real-world challenges such as variations in race, age, gender, facial coverings, and image quality. This system has application in Attendance automation, etc.

TOOLS / TECHNOLOGIES TO BE USED:

NAME OF TOOL / TECHNOLOGY	VERSION	SOFTWARE / HARDWARE	PURPOSE OF USE
Python	3.10+	Software	Programming, Scripting
openCV	4.8+	Software	Face Detection, Image Processing
SQLite	3.x	Software	Local Database
Git/Hub	-	Software	Version Control

PROPOSED PROJECT MODULES:

NAME OF MODULE	PROPOSED FUNCTIONALITY IN PROJECT
Data Collection	Create & prepare face datasets
Model Training	Build & Train a CNN Based recognition model
Real-Time Recognition	Integrate OpenCV for live face detection.
User Interface	Design web interface using flask and Bootstrap
Attendance Management	Log & display attendance records using database
Alert & Security System	Sends email notifications

TEAM MEMBER DETAILS:

STUDENT NAME	CLASS & GROUP	MOBILE No.	EXPERTISE AREA	ROLE IN PROJECT
Samyak Jain	ITB - 62-I	930905432	Python, ML, Data Science	Full Stack Development

- NOTE:** 1. This form is to be submitted by a team of maximum 4 students in the starting of semester to lab coordinator.
 2. Students must keep a Xerox copy of this form as reference for project work and attach it to final report.