



SIMATS ENGINEERING



Saveetha Institute of Medical and Technical Sciences
Chennai- 602105

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Course Code: DSA0216

Slot: B

Course Name: Computer Vision with OpenCV for Modern AI

Course Faculty: Dr. Senthilvadivu S & Dr. Kumaragurubaran T

Project Title:

A Web-Based Real-Time Person Identification System for Intelligent Surveillance Using OpenCV and Deep Learning

Module Photographs:

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Module 1: Video Capture & Person Detection Flowchart

```
graph TD
    Start([Start]) --> Receive[Receive Video Stream]
    Receive --> Check{Is Stream Working?  
(Check Frame Read)}
    Check -- No --> Stop([Stop  
Error Message])
    Check -- Yes --> Resize[Resize and Preprocess Frame]
    Resize --> YOLOv8[YOLOv8]
    YOLOv8 --> Detect[Detect Persons Using CNN Model]
    Detect --> Draw[Draw Bounding Boxes Around Persons]
    Draw --> ArePersons{Are Persons Detected?}
    ArePersons -- No --> Unknown([Unknown])
    ArePersons -- Yes --> Output[Output Frames With Person Detections]
    Output --> PassFrames[Pass Frames to Module 3]
    PassFrames --> End([End])
```

A Web-Based Real-Time Person Identification System for Intelligent Surveillance Using OpenCV and Deep Learning

Advanced Deep Learning & Computer Vision for Real-Time Surveillance

MODULE 1: Video Capture & Person Detection

Current Source (RTSP/HTTP/Webcam):
<http://192.168.43.100/video>

Use Video Feed

Start Stream

Stop Stream

Load Detection Model

Use Phone Camera

Use Laptop Camera

Project Module: Video Capture & Person Detection

Description: A Web-Based Real-Time Person Identification System for Intelligent Surveillance Using OpenCV and Deep Learning is a smart surveillance application that detects and identifies people in real time using computer vision and deep learning techniques. The system captures live video streams through a web interface and processes each frame using OpenCV for image processing and a deep learning model for accurate person recognition. It is designed to enhance security by automatically detecting, identifying, and logging individuals without manual monitoring. The system integrates web technologies with AI-based recognition to provide live monitoring, person registration, and real-time alerts. By combining face detection, feature extraction, and deep learning classification, the project delivers an intelligent, automated surveillance solution suitable for smart security environments such as offices, campuses, and public areas.

Student Signature

Guide Signature