



SIMATS ENGINEERING

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Course Code: DSA0216

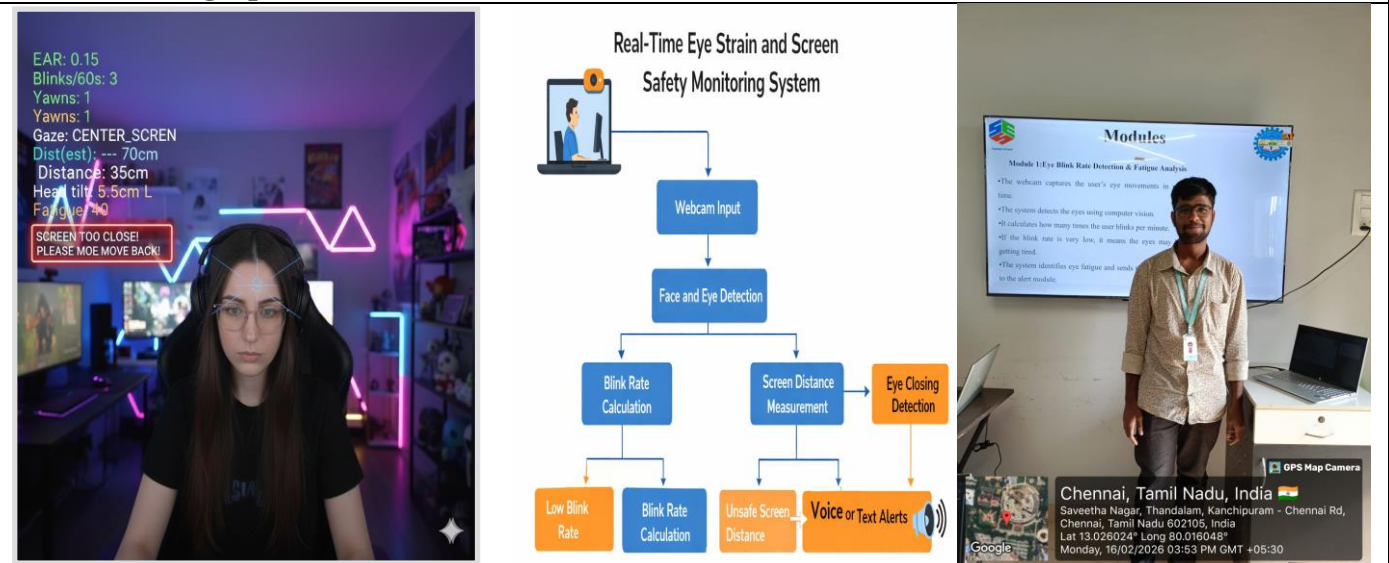
Slot: B

Course Name: Computer Vision for Open cv for Modern AI

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

Project Title: An Intelligent Real-Time Eye Strain and Screen Safety Monitoring System

Module Photographs:



Project Description:

Module 1: Eye Blink Rate Detection & Fatigue Analysis

This module focuses on detecting and analyzing the user's eye blink rate in real time using computer vision techniques. A webcam captures live video, and facial landmarks are identified to locate the eye region accurately. The Eye Aspect Ratio (EAR) formula is applied to measure blinking frequency over time. If the blink rate drops below the normal threshold, the system identifies possible eye discomfort due to prolonged screen usage. This module forms the core component for monitoring visual health and promoting safe digital habits. When the blink rate decreases below the normal threshold, it indicates reduced blinking caused by continuous screen focus. This may lead to eye dryness, irritation, and discomfort. The system detects such patterns and flags them as potential eye strain conditions. By monitoring blinking behavior automatically, this module helps create awareness about unhealthy screen habits. Accurate detection and analysis ensure timely alerts and support preventive eye care during prolonged screen usage.

Student Signature

Guide Signature