



CMR College of Engineering & Technology

(UGC Autonomous)

Kandlakoya, Medchal, Hyderabad - 501401

Department of Computer Science and Engineering

Academic year 2023-2025

M.TECH MINI PROJECT	
Domain of the Project	Machine learning
Title of the Project	Driver Drowsiness Detection System.
Year/Sem	1 st Year /2 nd Sem
Name of the Guide& Designation	Dr. G Ravi Kumar (Professor)
Roll Number	Name of the Student
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ABSTRACT

This project aims to develop an advanced drowsiness detection system specifically designed for truck drivers to reduce the incidence of accidents caused by driver fatigue. Before starting the vehicle, captured images of the driver's face are uploaded to the software, which uses Python, OpenCV, and Dlib libraries to identify key facial landmarks, including the eyes. By calculating the Eye Aspect Ratio (EAR), the system continuously monitors the driver's eye state during the journey to detect prolonged closure, a strong indicator of drowsiness. When the EAR falls below a specified threshold for a consecutive number of frames, an alarm is triggered to alert the driver with a sound or voice, thereby preventing potential accidents.

This cost-effective and scalable solution leverages OpenCV for image processing, Dlib for facial landmark detection, and SciPy for EAR calculations. It provides a robust method to mitigate the risk of drowsy driving in the trucking industry, significantly enhancing road safety.

Keywords

Drowsiness detection, Truck drivers, Eye aspect ratio, Facial landmark detection, OpenCV, Dlib, Machine learning, Python, Real-time monitoring, Driver safety, Road safety, Alarm system.

Co-ordinator

HOD