##### **A Project Report on**

###### **Driver Drowsiness Detection System**

###### A Dissertation submitted to JNTU Hyderabad in partial fulfilment of the academic requirements for the award of the degree.

**Master of Technology**

**in**

**Computer Science and Engineering**

Submitted by

|  |  |
| --- | --- |
| D Sathish | 23H51D5803 |



**Department of Computer Science and Engineering**

**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**

(An Autonomous Institution under UGC & JNTUH, Approved by AICTE, Permanently Affiliated to JNTUH, Accredited by NBA.)

KANDLAKOYA, MEDCHAL ROAD, HYDERABAD - 501401.

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**CMR COLLEGE OF ENGINEERING & TECHNOLOGY**

KANDLAKOYA, MEDCHAL ROAD, HYDERABAD – 501401

**Department Of Computer Science and Engineering**

#### CERTIFICATE

###### This is to certify that the Mini Project report entitled " **Driver Drowsiness Detection System** " being submitted by **D. Sathish** ***(20H55A0505)*** in partial fulfilment for the award of **Master of Technology in** **Computer Science and Engineering** is a record of bonafide work carried out his/her under my guidance and supervision.

The results embody in this project report have not been submitted to any other University or Institute for the award of any Degree.

**GUIDE**  **Head of Dept.**

**G Ravi Kumar Dr. S. SIVA SKANDA**

**Associate Professor Associate Professor and HOD**

**Dept. of CSE Dept. of CSE**

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#### ABSTRACT

A project on drowsiness detection system. A countless number of people drive on the highway day and night. Taxi drivers, bus drivers, truck drivers and people traveling long-distance suffer from lack of sleep. Due to which it becomes very dangerous to drive when feeling sleepy. The majority of accidents happen due to the drowsiness of the driver. So, to prevent these accidents we will build a system using Python, OpenCV, and Keras which will alert the driver when he feels sleepy. Drowsiness detection is a safety technology that can prevent accidents that are caused by drivers who fell asleep while driving.

The **objective** of this intermediate Python project is to build a drowsiness detection system that will detect that a person’s eyes are closed for a few seconds. This system will alert the driver when drowsiness is detected.

The requirement for this Python project is a webcam through which we will capture images. You need to have Python (3.6 version recommended) installed on your system, then using pip, you can install the necessary packages.

1. **OpenCV –** pip install opencv-python (face and eye detection).
2. **TensorFlow –** pip install tensorflow (keras uses TensorFlow as backend).
3. **Keras –** pip install keras (to build our classification model).
4. **Pygame –** pip install pygame (to play alarm sound).

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