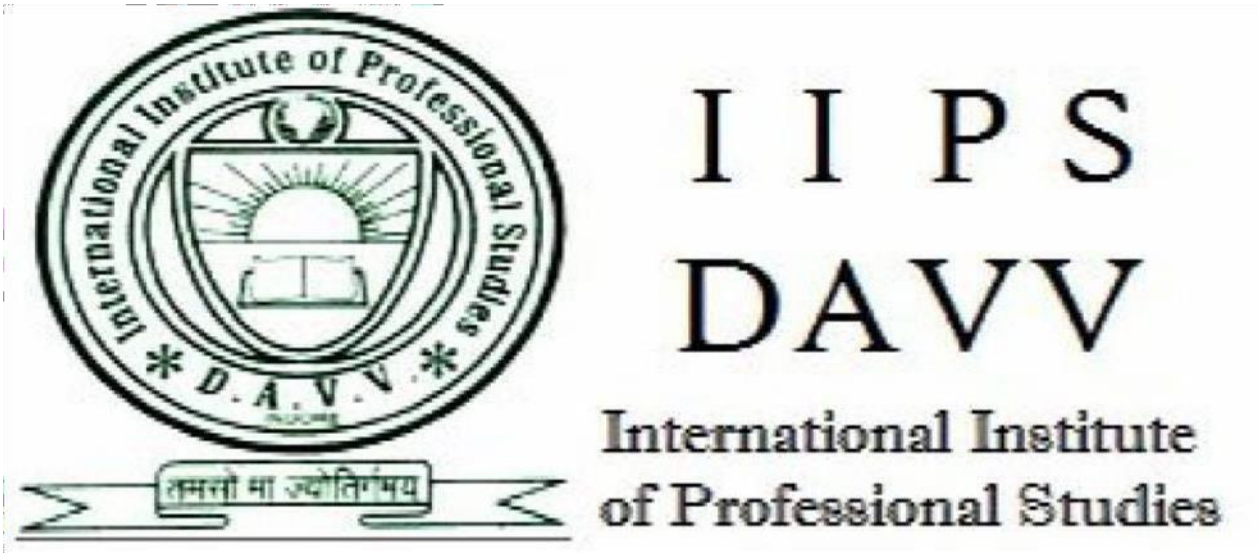

INTERNATIONAL INSTITUTE
OF PROFESSIONAL
STUDIES

MTECH VII SEMESTER

Project Title:-

Driver Drowsiness Detection

Members:-

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Under the mentorship of :-

Mrs. Kirti Vijayvargiya ma’am

1. Introduction

- This project is about the system which can detect the drowsiness of a face.
- The main highlight of the project would be that it can recognize the face of the driver and detect whether the driver is in active, drowsy or sleepy.
- As this can help to prevent the accidents which occurs due to sleepiness of drivers as they drive for long hours.

2. Objectives

- Identify and detect signs of driver drowsiness in real-time.
- Implement an alert system to notify the driver when drowsiness is detected.
- Utilize Python modules, including OpenCV, imutils, numpy, and dlib.

3. Methodology

- -Data Acquisition:
- Utilize a webcam for real-time video input.
- Use OpenCV to capture and process video frames.
- Facial Landmark Detection
- Employ dlib for accurate facial landmark detection.
- Use the detected landmarks to analyze facial expressions and movements.
- Drowsiness Detection:
- Implement algorithms to identify signs of drowsiness, such as eye closure and head movements.
- Utilize image processing techniques to extract relevant features.

4. Technology Stack

- Python programming language.

- OpenCV for computer vision tasks.
- imutils for image processing utilities.
- NumPy for numerical operations.
- dlib for facial landmark detection.

5. Expected Outcome

- A real-time driver drowsiness detection system.
- Enhanced road safety through timely intervention.

6. Challenges

- To locate the correct points around the eye or drowsiness detection.
- To use python libraries such as OpenCV.

7. Conclusion

- Implementing this system in real life can reduce the amount of accidents.
- The road safety can be increased hence reducing death rates due to road accidents

8. Future Work

- We can add sensor to this system as when the driver is about to sleep it can detect and raise an alarm which can wake up the driver.

9. References

- OpenCV documentation
- Geeks for geeks.
- YouTube videos reference.