MINI PROJECT

(2020-21)

Driver Drowsiness Detection System

SYNOPSIS

Institute of Engineering & Technology

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Acknowledgment

It gives us a great sense of pleasure to present the synopsis of the B.Tech Mini Project (**Driver Drowsiness Detection System**) undertaken during B.Tech IIIrd Year. This project in itself is going to be an acknowledgement to the inspiration, drive and technical assistance will be contributed to it by many individuals.

We owe special debt of gratitude to Priya Agrawal, Technical Trainer Department of CEA, for providing us with an encouraging platform to develop this project, which thus helped us in shaping our abilities towards a constructive goal and for his constant support and guidance to our work. His sincerity, thoroughness and perseverance is been a constant source of inspiration for us. We believe that he will shower us with all his extensively experienced ideas and insightful comments at different stages of the project & also taught us about the latest industry-oriented technologies.

We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind guidance and co-operation.

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Driver Drowsiness Detection System
(Python)

Now a days every one know about increasing the rate of road accident . Taxi drivers, bus drivers, truck drivers and people traveling long-distance suffer from lack of sleep .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 . It also Help to alert the passenger to know either driver is sleeping or not .

Contents

Motivation

Drowsiness detection is a safety technology that can prevent accidents that are caused by drivers who fell asleep while driving .The objective of this 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.

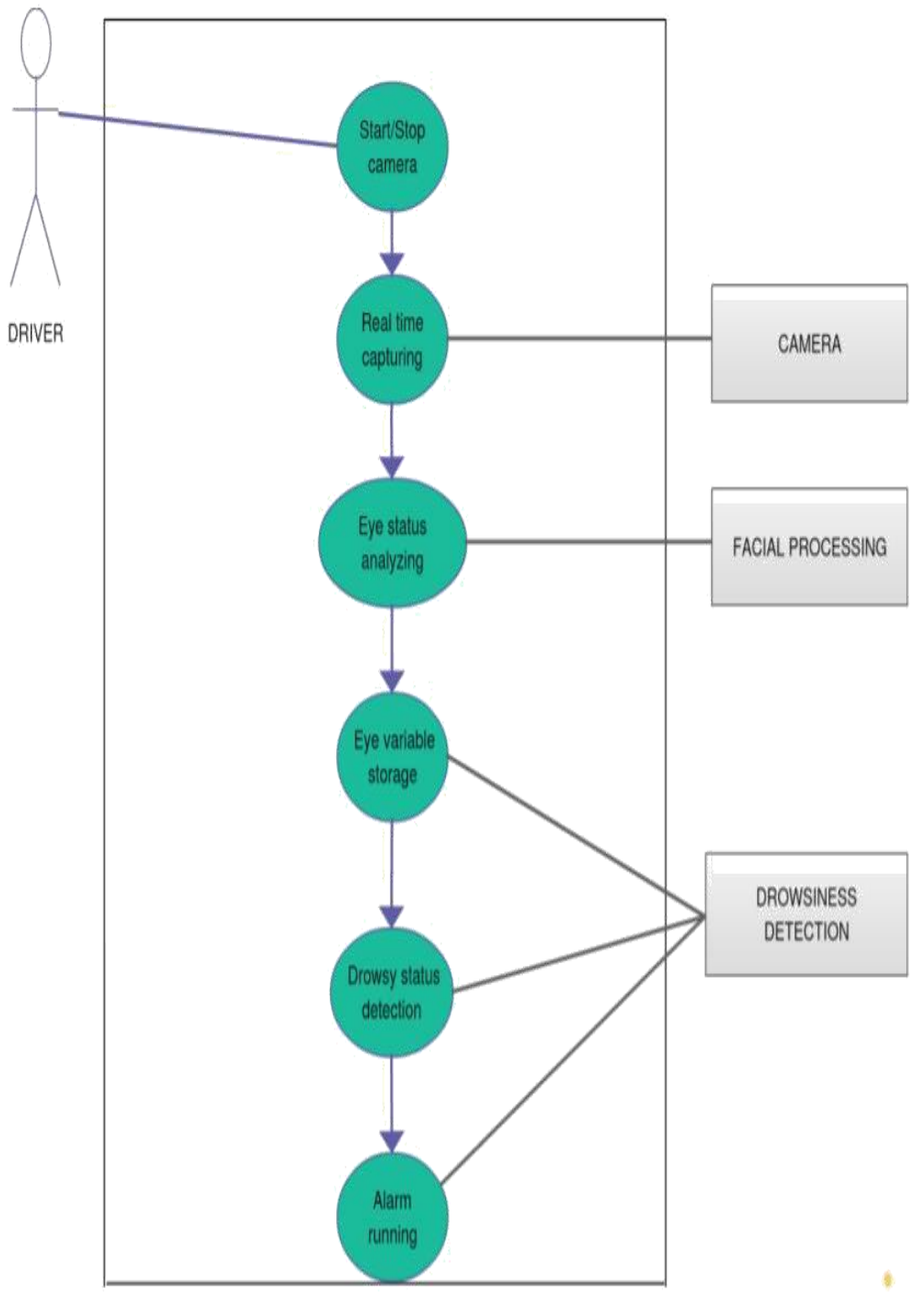
Future Prospects

The model can be improved incrementally by using other parameters like blink rate, yawning, state of the car, etc. If all these parameters are used it can improve the accuracy by a lot.

We plan to further work on the project by adding a sensor to track the heart rate in order to prevent accidents caused due to sudden heart attacks to drivers.

Same model and techniques can be used for various other uses like Netflix and other streaming services can detect when the user is asleep and stop the video accordingly. It can also be used in application that prevents user from sleeping.

USE CASE DIAGRAM



Requirements

a) Hardware:

- Minimum 2GB RAM
- i3 Processor
- Laptop with basic Hardware
- Webcam

b) Software:

- Pycharm
- Anconda
- Operating System(Window)
- **Programming Language**
  - Python with OpenCv

REFERENCES

- **Book References**
  - OpenCV Computer Vision with Python(Joseph Howse)
  - Think Python: An Introduction to Software Design(Allen B. Downey)
- WWW.w3school.com
- WWW.javatpoint.com
- WWW.youtube.com
- www.tutorialspoint.com
- **Faculty Guidelines**
  - Priya Agrawal
  - Mr. Nikhil Govil