**HOW TO RUN THE PROJECT**

Firstly we need to download visual studio code in order to run this project, then by opening the folder and extracting this source code we can run the program with needed modules being installed in the vs code.

With the help of anaconda we can run, so by activating the conda in command prompt we can run and get the desired output of this project.

Here are the commands:

Conda activate env\_dlib

Driver\_Drowsiness\_Detector

Driver\_Drowsiness\_Detector.py

To stop running the webcam:

Use ctrl c

[![Tweet](https://img.shields.io/twitter/url/http/shields.io.svg?style=social)](https://twitter.com/intent/tweet?text=Check%20out%20Driver%20Drowsiness%20Detection%20project%20on%20Github%20&url=https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/&hashtags=python,drowsiness-detector,opencv,computer-vision,machine-learning,deep-learning)  [![GitHub stars](https://img.shields.io/github/stars/mohitwildbeast/Driver-Drowsiness-Detector.svg?style=plastic)](https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/stargazers)  [![GitHub forks](https://img.shields.io/github/forks/mohitwildbeast/Driver-Drowsiness-Detector.svg?style=plastic)](https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/network)

This program is used to detect drowsiness for any given person. In this program we check how long a person's eyes have been closed for. If the eyes have been closed for a long period i.e. beyond a certain threshold value, the program will alert the user by playing an alarm sound.

The program contains 3 files, which are

**## Files**

 - **\*\*face\_and\_eye\_detector\_single\_image.py\*\*** - Detects face and eye from a single image.

 Demo-

|  ![Test Image](https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/blob/master/images/test.jpeg)| ![Result Image](https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/blob/master/images/result\_face\_detector\_single\_image.png) |

|---|---|

 - **\*\*face\_and\_eye\_detector\_webcam\_video.py\*\*** - Detects face and eye in a webcam feed by user![Webcam Face and Eye Detection](https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/blob/master/images/webcam\_face\_eye\_detect.jpeg)

 - **\*\*drowsiness\_detect.py\*\***- This script detects if person is drowsy or not using webcam video feed

> DEMO

![Drowsiness Detection Demo](https://github.com/mohitwildbeast/Driver-Drowsiness-Detector/blob/master/images/drowsiness\_detector\_demo.gif)

**## Requirements**

> IMPORTANT

  Download `shape\_predictor\_68\_face\_landmarks.dat.bz2` from [Shape Predictor 68 features](http://dlib.net/files/shape\_predictor\_68\_face\_landmarks.dat.bz2)

  Extract the file in the project folder using

  ``bzip2 -dk shape\_predictor\_68\_face\_landmarks.dat.bz2``

    numpy==1.15.2

    dlib==19.16.0

    pygame==1.9.4

    imutils==0.5.1

    opencv\_python==3.4.3.18

    scipy==1.1.0

Use `pip install -r requirements.txt`to install the given requirements.

**## Usage**

**### Detect Face and Eyes in a Single Image**

Put your file to be detected in **\*\*images\*\*** folder with name **\*\*test.jpeg\*\*** or change the file path in `Line : 14 face\_and\_eye\_detector\_single\_image.py` to your image file.

Run script using:

    python face\_and\_eye\_detector\_single\_image.py

**### Detect Face and Eyes in a Webcam Feed**

Run script using:

    python face\_and\_eye\_detector\_webcam\_video.py

**### Drowsiness Detection**

Run script using:

    python drowsiness\_detect.py

The algorithm for Eye Aspect Ratio was taken from pyimagesearch.com blog, by Adrian RoseBrock.