**Drowsiness-Detection:**

Driver drowsiness detection is a project built using Dlib and OpenCV with Python language.

The project includes direct working with the 68 facial landmark detector and also the face detector of the Dlib library. The 68 facial landmark detector is a trained efficient detector which detects the points on the human face using which we determine whether the eyes are open or they are closed.

* We have used Dlib functions called get\_frontal\_face\_detector() and shape\_predictor().

Result of Detector:

Graphical user interface

Description automatically generated

The above screenshot depicts where the landmarks are detected using the detector.

Further we are calculating something called as EAR(Eye Aspect Ratio) using which we can determine the sleeping status of a person.

Here we are calculating the sum of the distances of the vertical points on the eye and dividing it by twice of the distance between horizontal points located on the extremes of eye. determined by the shape predictor defined in Dlib.

**The 68-landmark detector data (.dat) database related information can found here** [*https://ibug.doc.ic.ac.uk/resources/facial-point-annotations/*](https://ibug.doc.ic.ac.uk/resources/facial-point-annotations/)

**The 68-landmark detector data (.dat) file can found here:**

[*https://github.com/italojs/facial-landmarks-recognition/blob/master/shape\_predictor\_68\_face\_landmarks.dat*](https://github.com/italojs/facial-landmarks-recognition/blob/master/shape_predictor_68_face_landmarks.dat)

**Result:**

**Graphical user interface

Description automatically generated**

**Graphical user interface, application

Description automatically generated**

**Graphical user interface, application

Description automatically generated**