

# REPORT ON DATASET AND INITIAL ANALYSIS

**Project:** Drowsiness Detection

GROUP NO: 43

## **Description of the dataset in your own words:**

We basically don't need a dataset because we are doing real-time driver drowsiness detection, which basically takes live video-input from webcam. But for testing purpose we took a dataset which consists of different videos (.mp4 files) which include different scenarios. We are going to use this data set to test different parts of code (for ex, eye detection and mouth detection).

## **Description of the problem in terms of the selected dataset:**

We chose this dataset to test code at different scenarios like:

1. To detect mouth and eyes of a person at the same time
2. To detect faces of both men and woman
3. To detect eyes of people with spectacles or without spectacles (transparent).

## **Any initial results based on existing algorithms:**

It uses Viola Jones algorithm to determine the position of eyes. Then the left & right eyes are separated by symmetry. Viola Jones algorithm uses Haar-like features to detect a face . Existing solution is able detect face and then segment them in left & right eye. Segmented parts are used to determine the state of eyes (open or close).

## **Analysis of the initial results:**

Comprehensive overview of the project:

1. First, video-input is taken either from web-cam or from a video-file.
2. Then video is divided into frames and then into the image, this image will be given as input for segmenting the face.
3. Then Face detection is done through Viola Jones algorithm
4. Eyes are segmented from the face
5. Then state of eyes is determined (open or close)
6. When the eyes have been closed for too long a warning signal is issued

Limitations of initial results:

1. Accuracy is decreased in low-light conditions
2. Cannot detect the face when the face is turned or slant.
3. Existing solution doesn't consider the mouth(yawning) to determine whether a driver is drowsy or not.