Continuous Evaluation using Human Behaviour Detection

In this project with the help of the image processing technique we are going to detect the person's eye state, there have a large number of public datasets available for pedestrian detection. In this study, we used the publicly available datasets which include Weizmann datasets, UT-Interaction datasets and the INRIA datasets for human recognition. which will provide information about a person how attentively is attending the class and his activeness in the class.
In this project, we will found the eye area, locate pupil and iris and measure the diameters of both horizontally and vertically and set a threshold on how many % of the horizontal diameter is available vertically to check how much eyes are closed and if you cannot detect pupil and iris, the eyes are closed

we will implement both YOLOv2 and mainly focused on YOLOv3-based object detection for human behavior recognition in videos. In YOLOv3, it integrates advanced algorithms such as residual network and upsampling. Moreover, YOLOv3 improves the network depth into a total of 53 layers; it carries out predictions on three different sizes of feature maps. To be exact, it is to perform 32, 16 and 8 times downsampling on the input image before prediction; the network down samples the input image until the first detection layer, which uses a feature map with a stride of 32 for detection. Then, the layers are sampled twice and connected to the feature map of the previous layer with the same feature map dimensions. Another detection is performed on the layer with stride 16, and the same upsampling process is repeated.

There are several standard evaluations in information retrieval which are accuracy, recall and precision is a result of human behavior recognition using YOLOv3 and generated based on the test video frames which includes the walk, skip, run, jack and jump.

Approach for eye detection:-
1. we will locate the face and check the color of the pixels and also adjust the intensity. After adjusting the intensity, we will use an algorithm that is used to locate the face. This algorithm properly handles head rotation, different hair colors, and glasses and has high detection speed.
2. locating eyes in the face area region, For this purpose, the initial eye region is defined using face region coordinates.
3. Determining Initial Eye Regions
4. Extracting Eye Candidates Using Color and Intensity Mappings
5. Eye Region Confirmation
6. Decision Making Based on Texture Features
7. Decision Making Based on Appearance Feature of Sclera

Algorithm:- Haar Cascade is a machine learning object detection algorithm used to identify objects in an image or video and based on the concept of features
The algorithm has four stages:
1. Haar Feature Selection
2. Creating Integral Images
3. Adaboost Training
4. Cascading Classifiers

Result:-In this algorithm is proposed to distinguish between open and closed eye using a combination of texture feature vectors and appearance features of the eye. The proposed algorithm firstly locates the eye region in the face, thus limiting the search space for the second stage. In the second stage, eye state detection accuracy is increased considerably by an efficient combination of SVM classifiers based on LBP and MLBP feature vectors and the amount of sclera

exposure after detecting eyes is closed or not we can find the student behavior in class.