Face Detection based Attendance system

Team number: 10

Student names:

Pavan Kumar Srikanth Naik

Durga Kumari Pisipati

Aayushi Agarwal

Divya Swaroopa Rani Ogirala

Problem Statement

Face detection is a computer technology which is used in a variety of applications to identify human faces in digital images.

The goal is to detect faces and extract its features. One of the main features that is useful are the faceprints of the faces.

In this project, we will use an algorithm which compares the features extracted from the query image with the features extracted from the images in the data base and trains them.

It is useful in many areas such as security, biometrics, personal safety ... etc.

Implementation

Programming Language: MATLAB

Open source libraries and built-in functions: Computer Vision Tool Box, Image Processing Toolbox

Face Detection is used to mainly detect multiple faces in an image. The planned implementation is:

1. To import the image
2. To transform the image from RGB to Gray Scale (because it is easier to detect faces in Grayscale)
3. The image is manipulated, and image segmentation is performed
4. Best suited algorithm will be used to find the location of human faces in a picture and extract the features required for face detection.
5. The main working parameters are : Frontal Face Cart, Left Eye, Right eye, mouth and nose simultaneously.
6. These features are compared with the features of the images stored in the database

Inputs

Inputs: Image will be given as input to the program

Database: It will be created and fed into the program for the faces to be detected with names.

Testing and Performance Measurement

Test: Take a picture of classroom with students for attendance.

An attendance register will be generated by the program.

Output expected: In the register, Students present in the class will be marked as present and the rest will be marked absent

References

https://towardsdatascience.com/face-detection-for-beginners-e58e8f21aad9