



# FACE RECOGNITION

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**Abstract:** Face recognition technology is a biometric development, which relies upon the of facial components of a person. individuals assemble the face pictures, and the recognition gear subsequently processes the photos. The report presents the related explores of face recognition as indicated by substitute perspectives. We present the investigation of face recognition for certifiable conditions, and we present the general evaluation standards and the by and large data bases of face recognition. We give a forward-looking point of view on face recognition. Face recognition has transformed into the future progression heading and has various potential application prospects.

**Keywords:** Open CV, Image Processing, Deep Learning, Numpy, PyCharm

## I. INTRODUCTION

Customary technique for participation checking is a monotonous errand in many schools and universities. It is likewise an additional a weight to the resources who ought to check participation by physically calling the names of understudies which could require around 5 minutes of whole meeting. This is tedious. There are a few possibilities of intermediary participation. Accordingly, many foundations began sending numerous different strategies for recording participation like utilization of Radio Frequency Identification (RFID), iris recognition, finger impression recognition, etc. Be that as it may, these frameworks are line based which could consume additional time and are nosy in nature.

Face recognition has set a significant biometric include, which can be effectively acquirable and is non-meddlesome. Face recognition-based frameworks are somewhat careless in regards to different look. Face recognition framework comprises of two classifications: check and face distinguishing proof. Face check is a 1:1 matching interaction, it looks at face picture against the format face pictures and though is a 1: N issues that analyses a question face pictures.

The reason for this framework is to fabricate a participation framework which depends on face recognition methods. Here face of a singular will be considered for checking participation. These days, face recognition is acquiring fame and has been generally utilized. In this paper, we proposed a framework which recognizes the essences of understudies from live web-based video of homeroom and participation will be stamped in the event that the distinguished face is tracked down in the data set. This new framework will consume less time than contrasted with conventional techniques.

## II. LITERATURE SURVEY

Authors in proposed a model of a robotized participation framework. The model spotlights on how face acknowledgment consolidated with Radio Frequency Identification (RFID) identify the approved understudies and includes as they get and get out structure the study hall. The framework keeps the legitimate record of each and every enrolled understudy. The framework likewise keeps the information of each and every understudy enrolled for a specific course in the participation log and gives fundamental data as per the need.

In this paper, authors have designed and executed a participation framework which utilizes iris biometrics. At first, the participants were approached to enlist their subtleties alongside their novel iris format. At the hour of participation, the framework naturally took class participation by catching the eye picture of every participant, perceiving their iris, and looking for a match in the made data set. The model was electronic.



Authors proposed a participation framework in view of facial recognition. The calculations like Viola-Jones and Histogram of Oriented Gradients (HOG) highlights were utilized to execute the framework.

### III. PROPOSED WORK

Images captured and stored away in the database (images should be stored in .jpg format). During every meeting, appearances will be identified from webcam. The faces detected will be compared and pictures present in the database. Assuming that match found, Name and time will be marked apart in the Excel sheet.

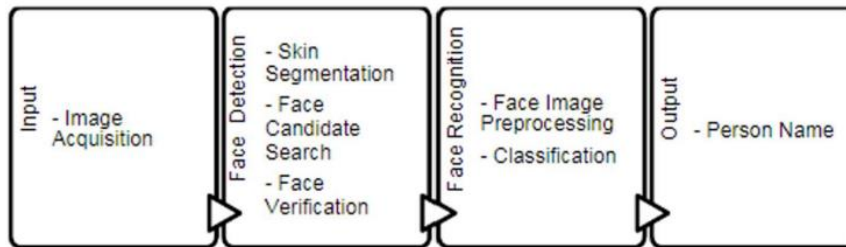


Fig: 1 - Face Recognition Approach

Typically, this process can be divided into four stages:

1. **Database creation:** First, we collected the different pictures of the same person and place the different images which we collected in the same folder where we created a PyCharm project (C:\faceRecognitionproject\Basics). The images should belong to the same person and all the images should be in the form of .jpg format.

The images of the different persons should be collected and put all the collected images in the single folder by assigning some name to the folder and add the name of the person to the image to whom the image belongs to and the images should be in the form of .jpg format as shown below.

2. **Face Recognition:** The ongoing innovation astonishes individuals with astounding developments that not just make life basic yet additionally endurable. Face recognition has after some time demonstrated to be the least meddlesome and quickest type of biometric confirmation.

Facial Recognition is a class of biometric programming that maps a person's facial elements and stores the information as a face print. The product utilizes profound learning calculations to contrast a live caught picture with the put away face print to check one's character. Picture handling and AI are the spines of this innovation. Face recognition has gotten significant consideration from scientists due to human exercises found in different utilizations of safety like an airport, criminal detection, face tracking, measurable, and so on. Contrasted with other biometric attributes like palm print, iris, unique finger impression, and so on, face biometrics can be non-nosy.

They can be taken even without the client's information and further can be utilized for security-based applications like criminal detection, face following, airport security, also measurable observation frameworks. Face recognition includes catching face pictures from a video or an observation camera. They are contrasted and the put away database. Face recognition includes preparing known pictures, arrange them with known classes, and afterward they are put away in the database. At the point when a test picture is given to the framework it is ordered and contrasted and the put away database.

3. **Attendance updation:** The Next step would be to mark the attendance of the person. So, to do that we can create new function and to write down the attendance we will just write the name and the time they have arrived and we can add a lot of different things and even you can link to a database and we can do a lot of different things but to keep it simple we are going to use name and the time that they have arrived. Now to use the time we need the library for a time and date so we will use import datetime.

### IV. RESULTS AND DISCUSSION

The images which are stored in the Basics folder are to be scanned by giving their images name (Me.jpg and yaswanth.jpg) and return True if the images are same and returns False if the images are different. The both the images of the person will be identified by the scan their faces in the images. If the person in the both images is same then it returns True.

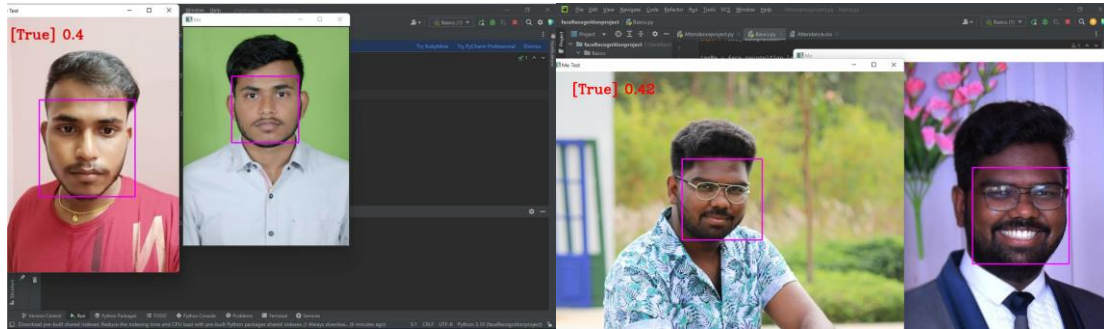


Fig: 2 – Comparing images with data base

The camera opens up automatically and starts detecting the faces and finds out the person and returns the name of the person who has been attended and at what time and stores these details in an .csv file.

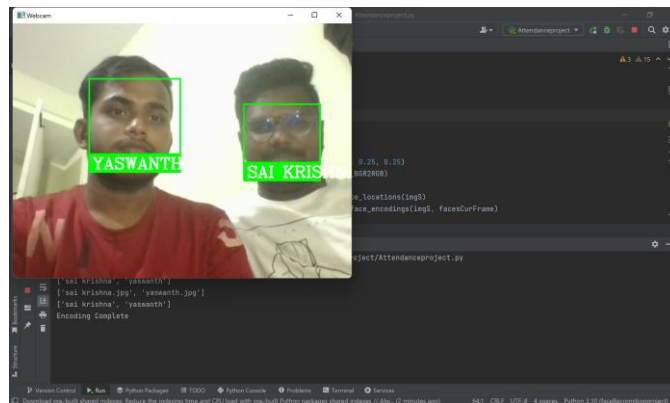


Fig: 3 – Detecting the persons

The Next step would be to mark the attendance of the person. So, to do that we can create new function and to write down the attendance we will just write the name and the time they have arrived and we can add a lot of different things and even you can link to an data base and we can do a lot of different things but to keep it simple we are going to use name and the time that they have arrived. Now to use the time we need the library for a time and date so we will use import datetime.

Name	Time
YASWANTH	11:55:31
SAI KRISHNA	12:22:57

Fig: 4 – Person name and presented time imported to Excel sheet



## V. CONCLUSION

In this approach, a face recognition based automated attendance system for border force checks is thoroughly described. The proposed approach provides a method to identify the individuals by comparing their input image obtained from recording video frame with respect to train image. This proposed approach is able to detect and localize face from an input facial image, which is obtained from the recording video frame and the attendance of each individual is marked in real time into an external database .csv or excel file.

Face recognition systems are currently associated with many top technological companies and industries making the work of face recognition easier. The use of python programming and OpenCV makes it an easier and handy tool or system which can be made by anyone according to their requirement. The proposed system discussed in this project will be helpful for many as it is user friendly and cost\_ efficient system. Hence by the use of python and OpenCV the face recognition system can be designed for various purposes. It can be concluded that in this era where the data and privacy of the individuals are manipulated it is very much relevant to the stream cyber security which prevents the data breach.

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