IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 5, May 2022

DOI: 10.17148/IJARCCE.2022.115168

AI Attendance Using Face Recognition System

Mohammad Shoeb Sheikh Mohammad Siddiki[1], Neehal B. Jiwane[2], Ashish B. Deharakr[3]

Student, Computer Science & Engineering, Shri Sai College of Engineering & Technology, Bhadrawati, India[1]

Asst.Prof, Computer Science & Engineering, Shri Sai College of Engineering & Technology, Bhadrawati, India[2]

Asst.Prof, Computer Science & Engineering, Shri Sai College of Engineering & Technology, Bhadrawati, India[3]

Abstract: For maintaining the discipline in the classroom and let students grasp there knowledge the attendance system was introduced every organization department school colleges where the student comes in the college the attendance is compulsory to see whether he or she is present in the classroom or absent in the classroom, and we can also see that the attendance taken by the teachers most of them uses the old technique as by calling the roll number and another is signing in the sheet of the paper this system makes the disturbance in the classroom, and it consumes a large time for calling the individual roll number and signing, In order to evolve this system many ideas come across in the mind, but our purpose of attendance is only through the face recognition system in the system the attendance will be marked automatically by recognizing the person facial features it can also be implemented in many fields where there is attendance and plays the vital role. The purpose of this paper is to recognize the person face and mark the attendance.

Keywords: Face Recognition, Face Detection, Haar-Cascade classifier, attendance system.

I. INTRODUCTION

Traditional method of marking the attendance is tedious task which are followed by the many schools as well as colleges , It becomes difficulty for the faculties marking the attendance manually by calling the roll number or name of the student which take 5 to 10 minutes for taking the attendance. It consumes the time also there might be a chance of the proxy attendance, Therefore many institutes started ignoring the traditional method and use the new method by for marking attendance such as by the Radio Frequency Identification, iris recognition, fingerprint recognition and so on however this system are Queue based which consumes the time efficiency. The face recognition has set an important biometric feature which can be easily acquired this system is relatively to the various face expression. Face recognition system consist of two categories verification of the face and detection of the face. The purpose of this system is to build the attendance system which is based only on the facial feature of the face as here the individual face are considered for marking the attendance as in the globe the face recognition has been used widely not only for the attendance but also for the security purpose , In this paper the system proposed is that it will detect the face of the student individually by the using the webcam or the digital cam in the classroom and the attendance will be marked according the individual student it will only mark if the student data is present in the system. This new system will consume the less time and also no paper required for this system the work load of the staff can be less.

II. PROPOSED SYSTEM

All the student must register themselves in the register from by filling all the details required and after filling the details the image will be captured by the camera and now the details and the image will be saved in the database. During each session the face will be detected from the camera and compare the image which is present in the database, If match found attendance will be marked for the respective student and after the session the absent student would get a mail by the respected faculty handling the session The system architecture is given below.

IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 5, May 2022

DOI: 10.17148/IJARCCE.2022.115168

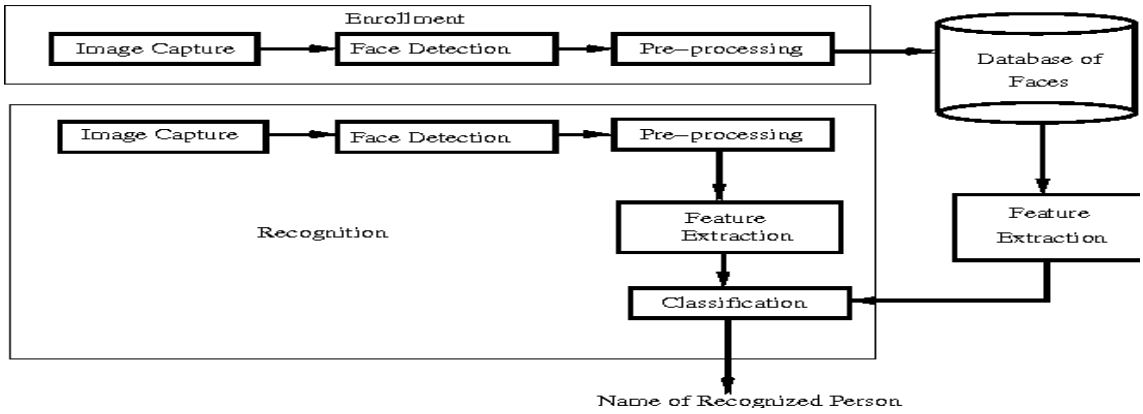


Fig. 1 Architecture system of attendance system

This process are divided into the four stages,

1. Dataset Creation:

The student image will be captured by the webcam, multiple image will be taken in different angles and posture after that the image goes under the pre-processing method they are cropped to obtain the region of interest which will than used for the face recognition process. As next the cropped image are converted into the pixel position than the images will convert from RGB to gray scale image and will be saved as the name for the respective student.

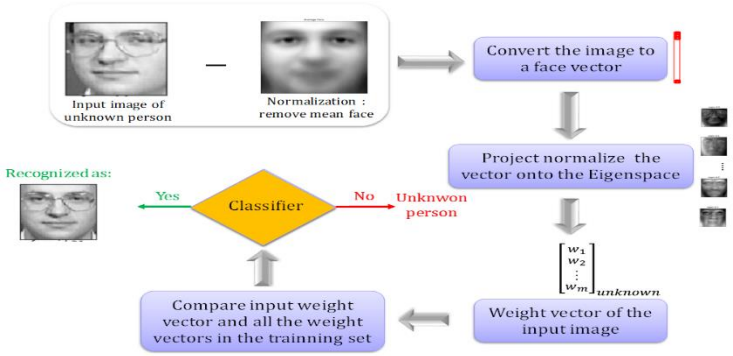


Fig 2. Data Set creation of the face

2. Face Detection:

The detection of the face her is performed by the algorithm that' is Haar-Cascade Classifier with OpenCV. This algorithm need to trained for detecting the human face before using it for face recognition it is called as the feature extraction. The Harr-Cascade training dataset used an XML file haarcascade _coalface_default. The feature of the Haar are shown in the below figure

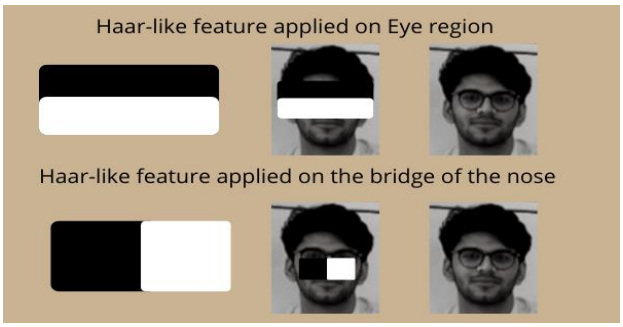


Fig 3 . Features of Harr-Casscade Classifier

Here we are using the multiscale detect module from OpenCV. This required to create a rectangle around the face , It also has got the three parameters for considering the factor scale the scale factor is used for how much the does the image size should be reduced not only in single image but for the multiple image, The parameter used in the system is scale factor and minNeighbours with values of 1.3 and 5 respectively.

IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 5, May 2022

DOI: 10.17148/IJARCCE.2022.115168

3.Face recognition:

The recognition is dived into the three steps prepare the set of the data, train face recognizer, prediction. Here the training data means the image which is already present in the dataset, it assigns the integral label which belong to whom than these images are used for the purpose of recognition. The recognition used in this system is Local Binary Pattern Histogram. By this entire face is obtained than this LBPS are than converted into the decimal number and histogram of all those values are than made.

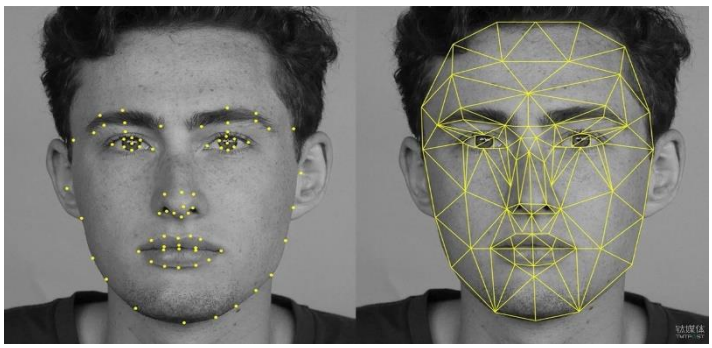


Fig 4. Recognizing The face

4. Attendance Updation:

After recognizing the face the recognized face will mark as present in the Excel sheet and rest of the student will mark as absent for student , And the faculties will update with the monthly attendance sheet.

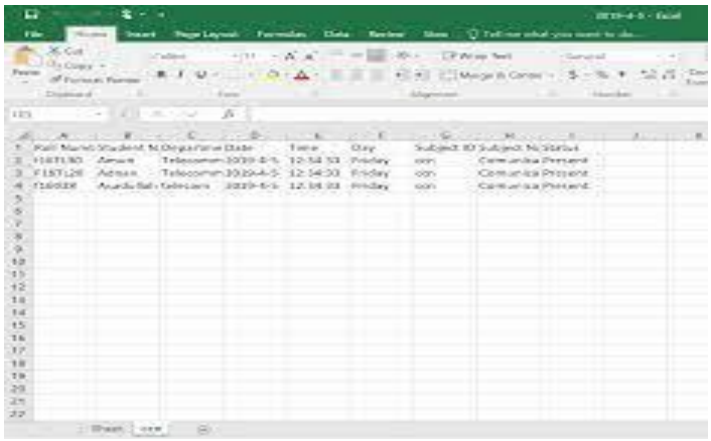


Fig 5 . Attendance mark in excel sheet

III. FLOW CHART

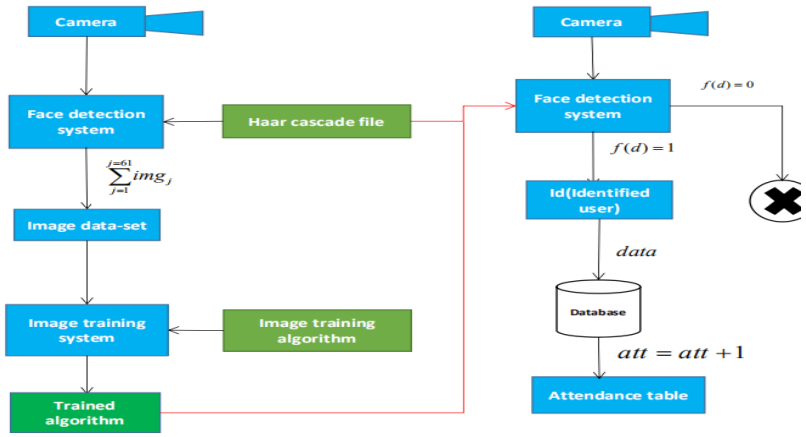


Fig 6. Flow of data in the face recognition system.

IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

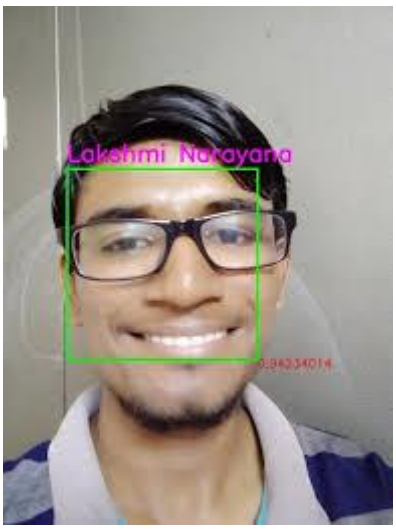
ISO 3297:2007 Certified ⁜ Impact Factor 7.39 ⁜ Vol. 11, Issue 5, May 2022

DOI: 10.17148/IJARCCE.2022.115168

Here first the camera will start and it will detect the personal face feature after detecting the data set is been created after that it will train the data with an algorithm and makes them into the proper position and size than this all the data will be saved in the database , after when the same person come near the camera the camera detect the person facial features and compared with the loaded training set of data if it matches than the attendance will be marked automatically by the system.

IV. RESULTS AND DISCUSSION

The user interact with system using the GUI, first the user has self register in the student registration , faculty registration and mark attendance after registration the web cam automatically starts and capture minimum 100 images which will be stored in training mage folder.



V. CONCLUSION

The system aims to build an effective attendance system using the face recognition technique. This system will able to mark the attendance by using the face id , It will detect the face using webcam and recognize it. After the recognition the attendance will be marked and update the record.

REFERENCES

[1]. Lowlesh Nandkishor Yadav “Predictive Acknowledgement using TRE System to reduce cost and Bandwidth” Factor 7.39 Vol. 11, Issue 3, March 2022.
[2]. Ashish B Deharkar “An Approach To Reducing Cloud Cost And Bandwidth Using Tre System”.