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Implement of an Automatic Class Attendence in All System Using Cnn-Based Face Recognition

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Abstract

This era is a combination of modern and new technology. In this combination, many traditional problems are being solved. To solve these problems, the problems have been solved by using new technologies. Attending educational institutions has become an essential part of daily life but this work takes a lot of time, which causes a lot of trouble in the office and in such institutions, and where there are more workers, this problem increases even more and makes the person tired. Manually Biometric Present System is costly requirement for fingerprint recognition through voice and iris where as hardware support and auto present system recognition is done using face this feature is another biometric which can solve everything this time and Date also mentions which represents facial development Face Recognition and Attendance Entry Data Set Training which includes data entry with conversational technician This system can be used for daily attendance recording .It can achieve an average recognition accuracy of around 95%. The system can detect and identify faces of multiple individuals. Likes can also be recorded from the video stream, thereby avoiding human hassles and risks.

Keywords: Face Detection and Recognition , Image Processing, Automatic Attendance.

Introduction:

The biggest concern of the educational institution is to record the daily attendance of all the students who are taking online education in the institutions or colleges or schools. In earlier times, the attendance system had to be recorded in the register in which it had to be ascertained one by one. To know who is present and who is absent due to which it takes time to do this task, one of the last ways is to register the presence by signing one's own signature or by using a seat to which no one belongs, one can easily copy the signatures of others[1] All the problems can be solved by an automatic attendance system and there has been development in this field as well. A biometric based system using AI is very essential for those who are regularly going to the educational official sector. Recognize all this is done by facial recognition system technology and it proves that identifying a video stream from a video is all the work of the system recognizing a person input image of human from a database facility of facial recognition tool Biometric can be defined as AI. It is based on the application of facial recognition model to identify a person and record the facial recognition patterns of a person. It has been used for identification for few years now. Moving Image is a very good idea. A lot of success has been achieved in the field of pattern recognition. It is being used the most in smart mobiles.(2-6) Finger print is first used to collect individuals in the data set during training. After this, the input facial image is recognized. Nowadays, government applications will also be created for face recognition, such as Sarthak App which It does the work of daily attendance in government colleges. Attendance is also done through face, which directly

reaches the education department. That the checking in in the app has to be done within a distance of 100 meters of your campus and to check out, there has to be a gap of 30 minutes from the checking in. This app works in both offline and online mode. Fee recognition is used in those areas also. A lot happens in technical form like robotics (9, 10) .This system has been implemented smoothly from security point of view. From security point of view, this system has been implemented smoothly. Different from biometric system, fingerprint is used which is different from voice or recognition. Biometric application has higher working accuracy and reliability as compared to fingerprint. Iris Recognition is non-interference. And because of the non-contact, time-consuming process, it is used (1, 11). It is also being used in marketing, video surveillance, and automatic indexing of interaction images. Under the application of facial.

The main objective of this work is to detect faces or which can be recognized in real time.

1. Developing a Machine Learning Model for Face Recognition in Real Time.
2. To record attendance which can be used in future to maintain records?

Proposed system:

1. system overview: The main goal of the proposed Automatic Class Attendance is to detect each face from the video that has come into the system by cross refreshing and the face is recognized. The faces are stored in the system by which we can detect the faces. This system has so much capacity. It can recognize and detect multiple people, automatically view the screen from video in real time, and take photos. Start capturing facial data for facial detection of students System stores appropriate levels to create data sheet of students CNN model is used for facial recognition Ho Ii Hong method for facial detection For accurate face detection, the captured face is complete and the camera is straight forward, or I will use CNN(19) In the next step the data set is trended. The system is connected to a video source that is stored at a convenient location. The video is analyzed in the system and then streamed. The faces of the students present are detected and then the faces are compared with the faces identified in the class. Students' data is stored in an Excel sheet which marks their attendance.

2. Methodology:

Four main parts are used in. In stages. These are

- Data entry
- Dataset training
- Face Recognition
- Attendance entry

These stages are discussed in the following section.

1. Data entry: In the first step, we will collect the faces. In the system, the students will create the data set in what is shown. Through the system, the students will be taken from the live video of the person with the name of the person and their name will be given to them at a time. In this, they will set the interval of 2 seconds Will set 20-25 images. To make it better, different positions of faces will be created. The number of data sets can be increased or removed from the settings.We will create folders related to each student with their name and create IDs in the form of levels. All the photos will be placed in their own separate folders. Photos will be added to the data set to make them more diverse and new photos will be added to that student's list. Will use the automatically trended data set that is currently available.

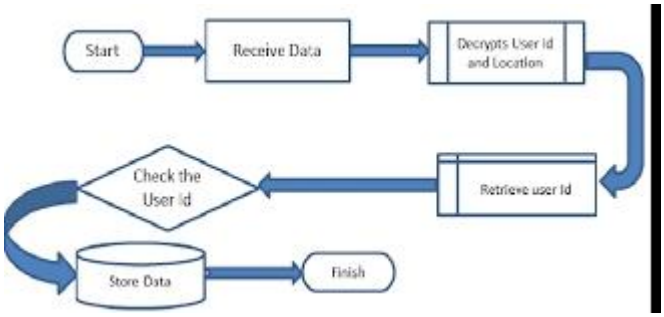

Fig1. data entry diagram

2. Dataset training: In this step, there is data set training. In this step, data entry is done, the options of which are present in the system. This step has to be activated manually at any point. There are three stages of training in which different facial images have to be detected. Nun 128 Measuring faces, which is called embedding, is a vector for images related to the same person. Nun vector varies in their composition. Different types of correct images can be created from one.The entire process is done using face encoding functions. Data is then extracted from the face recognition library. This data is later used for comparison. Then the face is recognized. This is also automatically created as a separate set. Which contains the complete record?

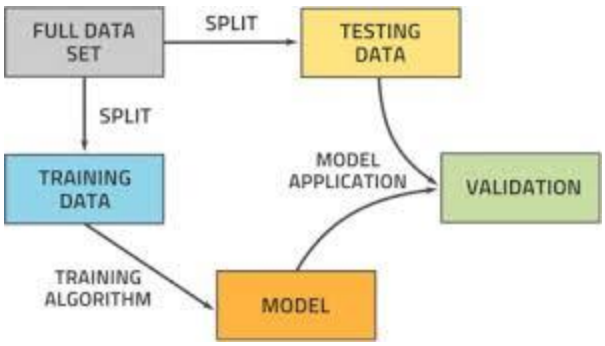

Fig.2 Dataset training

3. Face Recognition: Figure to face recognition is the step in which faces are depicted. The process of face recognition is in good position of the video camera. The system can detect it when the students have a clear view and the location of the classroom is known at the entrance of the classroom. Faces detected by cameras are compared with trend cities. Faces of students can also be detected from video stream.

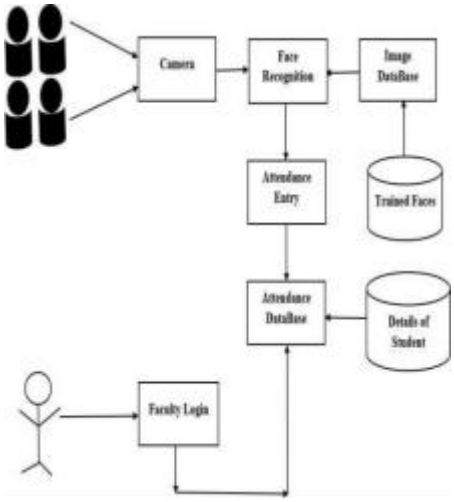

Fig.3 Face Recognition

4. Attendance Entry: In the step shown in Figure 3, Video Sarita automatically logins every student and the duration of the classes to give recognition ID of the students. This data is in a separate set like date, time, name, duration, there is also an option to calculate the attendance. Give a month; it can be a year or a month.

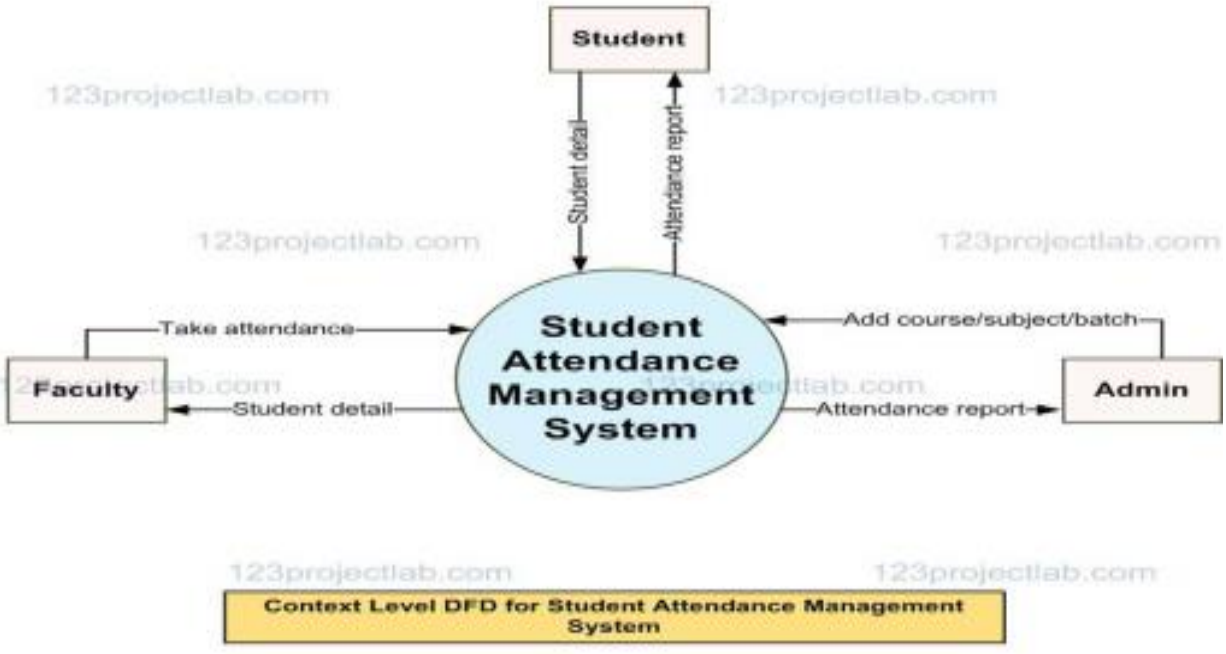

Fig.4 attendance Entry process

Key technology (digital attendance)

Biometric attendance system: Facial Recognition Biometric Attendance System is a technology to record the attendances of staff or students. It involves fingerprinting and virus scan. Employees do five. Biometric Attendance is a good way to track and record the hourly attendance of staff and students. The system is better than the online attendance tracking system in office or school college, it tracks the attendance of the person who has not come to the office.

RFID based Attendance: This Radio Frequency Identification RFIO is also called Raffia Ad Chip. It is a Radio Frequency Identification by which the person, object and animal are identified. The reader captures the radio waves in the smart level.

Mobile based Attendance: It means a computer based method which generates automatic reports in between the sessions. In this, secondary codes of the students are created and these are inputted along with the roll numbers. In this, the teaching work is done in a systematic manner.

cloud based Attendance: Cloud computing is a digital solution to manage employee attendance that allows tracking and tracking in real time, enhancing communication and making attendance monitoring even simpler.

Result and discussion:

The cornerstone of this tax is the accuracy of the facial recognition system. The purpose of the system is to identify the errors, after this the attendance will be taken, this is the main focus. You can use webcam for video. This webcam can also be used under laptop. Testing the system for accuracy can include relating the number of images per individual in the record data set by trending the number of completed record images in table form and repeatedly running the system through them for identification. goes that.

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