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RESEARCH ARTICLE

E ATTENDANCE USING FACE RECOGNITION USING PYTHON

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Abstract

Within the present time, education system is advancing day-by-day thanks to the introduction of concept of smart classroom. However, the attendance system still remains primitive, where the teacher/lecturer calls the name of scholars to mark their attendance. the automate attendance management will replace the manual method, which takes lots of your time, that is, it's very time consuming and is difficult to take care of. There are many biometric processes, among which face recognition is that the best method. during this project, we are visiting describe the attendance without human interference. during this method the camera is fixed within the classroom and it will capture the image, the faces are detected so it's recognized with the database and at last the attendance is marked. It too proposes one picture confront liveness discovery strategy for separating 2-D paper marks from the live faces. Still images taken from stay faces and 2-D paper mask have been discovered with the distinction in phrases of form and detailedness. so as to effectively employ such differences, we exploit frequency an information using various algorithms. we'll be trying to enhance the accuracy to an excellent extent and thus generate the ultimate attendance report after updated within the database

Keywords: Face detection, face recognition, camera, attendance system, data base.

Introduction

Attendance monitoring system is incredibly important process in the majority the organization and institutions. Now a days there are two styles of

systems are available first is manual and second is automated. The mostly used method for taking attendance is completely automated based. it's used python high level language and currently advanced level of open CV source to use during this system. the

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target this project is to perform face recognition so as to supply the small print name the scholar. Who attend class and so as to link the attendance to the subject? the information is already to save lots of within the memory. To distinguishing detecting the face and recognition the face and stamping the attendance.

Literature Survey

The students' fingerprints unit of measurement scanned by a code. The scholars impress the fingerprint against the scanner the system compares the new fingerprint patterns and it'll be connecting to the varied points for the fingerprint to the database. A match is recorded as knock. The finger print module then we are taking the sample of there are four finger print and that they are detected along the pictures when the user that ought to keep finger on the module and it'll be scanning and compared is already stored within the memory the person whose finger print is matched there are marking present and not matching the SMS send to his parents. When the scholar images are stored the database. the raspberry pi camera module is placing the scholar entering within the class room. the USB camera module is capturing the scholar image. the system will automatically update the scholar presence within the class to the student's database and sends message to guardians of absentees and also to go off department. The portable work of web camera is capturing the picture. Each student faces are stored to the database. The image of the scholars for further process. then detected face images are compared with the image of scholars database. and therefore, the recognition process. If the image is matched with the database. the coed is marked as present. the scholar attendance report will send to student on mail account. The face recognition is captured the student's image. the scholars entering within the classroom or everybody already occupies within the classroom. The student's attendance automatically recognized. The scholar information of data base is collected and save to the pi. The camera is connected to the raspberry pi module camera are going to be placed ahead of the category. It captures the image of the scholar. Who are present within the class is employed for face detection? Then the detected face is compared with the stored data of each

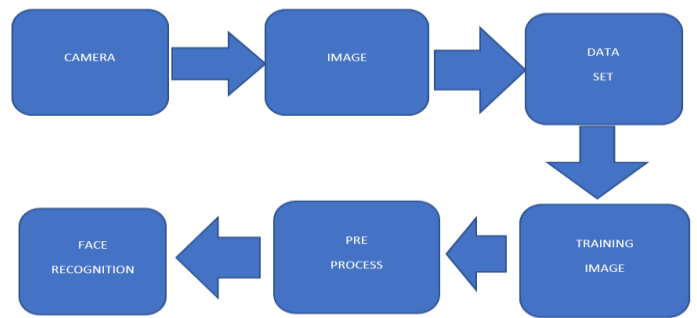
student. Then recognized and mark the attendance. The camera will now capture your image. If the picture detected fits to the pattern image for the database. The attendance marked as present on the LCD. if the camera fails the fingerprint scanner are activated and therefore the attendance is going to be marked present. The system that may be automatically capture students' attendance by flashing their student card at the RFID reader to entering the category room. the coed ID is instantly capture by the reader subsequently the information is distributed to the web server for recording. The system helps to automatically compute the proportion of attendance of every individual student. The GUI of consumer listing function for including and disposing of the scholar personal details. The student to mark his attendance. After recognizing the of the scholars. The face information of scholars is updated in to a MySQL database. the information of present student is then sent to server computer and stored the person can see it. Biometric method is employed for the eyeball detection. This method eyeball sensor is employed. Also senses the iris. The individual of eyeball is stored within the database. The image of eyeball in database. the attendance is marked. This setup is practically impracticable Where the iris of scholars is scanned. Then stored to the database retrieved for the comparison and attendance is managed automatically within the server. The student's faces are pre stored within the databases. Raspberry pi camera capture the coed face and compared to the database image. If it's matched the coed attendance register with time. The absentee's faces are going to be sent to the authorized mail id. The raspberry pi camera module is placed for student entering within the classroom. Camera module is capturing the video form. Which contains the various frames from which anybody of the frames is used for face recognition and marking the attendance. Which obtain the faces images capture by camera? When face recognize operation is started and discover the closest matched images from SD card. After completion of sometime amount a file generated with student details like roll number, date, time, present or absent. someone can absent the message send from the parent versatile numbers utilizing GSM. this technique provides accurate attendance information of the scholars in easy and efficient. a

conveyable hand-held finger print scanner is passed to every student and their finger print is recorded. it's then communicated to the pc via USB interface. Using GUI, the school can add a student remove a student and also import or export data from the portable scanner. This attendance system for using of employers and students generally. The system makes attendance individual in time together with data information thumb impression are going to be taken as signature for the system entry The captured the photographs are stored in jpeg format so ear part in cropped from the photographs. the photographs are including the subsequent operations are edge detection and timing. After this method is completed the ear images are coordinating from the put away pictures then appear the result. This system takes the attendance with the assistance of fingerprint sensor and every one the records are saved the pc server.

Proposed Method

In the earlier systems the attendance of the scholars has been marked for the full day without delay. Thus, if a student is present for under a lecture and so left the category, even then he is marked as present for whole day. We propose a system for automated attendance of the coed which is able to mark the attendance for every lecture within the classroom via face recognition. we'll create the database of face of every of the scholar. Image are Capture with the assistance of Web Camera of Laptop. The image of student is considered for further processing. Then the detected face images are been compared with the pictures of the scholar within the database for recognition process. The database contains the record of all of the scholars in each class. If image matched with database image, then student therewith face is marked as present. the entire student attendance record is maintained by Mail Server. The Attendance are going to be calculated daily and Monthly and whole report will send to student on mail account.

Block Diagram



Working

The proposed automated attendance management system is predicated on face recognition algorithm. When an individual enters the classroom, his image is captured by the camera at the doorway. Face region is at the point extracted and pre-processed for advance preparing. As no more than two persons can entire the category room at a face detection is a smaller amount work. Face recognition shows to be advantages of the other system which was discussed to inspection the face recognition and marking the attendance in the database.

Conclusion

In this paper, we implemented the face recognition system using Principal Component Analysis and Eigen face approach. The system successfully recognized the human faces and worked well with different facial expressions and addition of salt and pepper noise. The face recognition system was accustomed create an automatic attendance updating system supported face recognition. This attendance system may be wont to take attendance of various individuals on the idea of their face images. The system estimates the attendance of every student by capturing image by web camera of laptop. Then image will select further processing. The system allows the lecturer to test his/her student attendance automatically by using pc (PC) with none extra cost and energy. The system automatically updates the attendance of the individuals and mark present/absent for them in an excel sheet. The excel sheet accustomed update attendance is overwritten each time the program is executed. Hence the user has got to save the present attendance within the memory so as to use it for future reference. From the results

performed on the database, it's evident that the attendance system supported face recognition performs satisfactorily. Hence it will be concluded that this algorithm demonstrates better performance with relevancy speed, low false positive rate and high accuracy.

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