Face Recognition

Abstract:

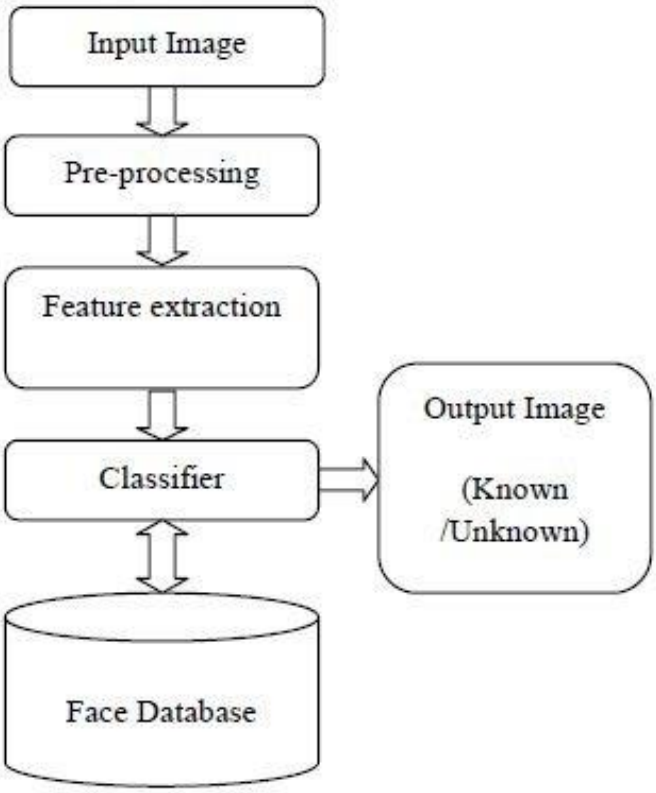
Now-a-days there is lot of research going on face recognition and identification, with the increase in computational power working on images became easy and many complex and deep neural networks are implemented on images. There are many applications which update automatic attendance and face recognition, we wants to implement for the attendance in Academic era. This will solve the problem of identification of students and teachers etc. in School, collages and at many more places. We have used deep convolution network and Siamese network to train images to classify in to student, teachers and staff etc. from cameras. This also compares the results from different models. So to implement it, we will use Raspberry pi, python language and high definition camera for capturing purpose.

Introduction:

Face recognition now has become great place to research on. This is the major area ofcomputer vision which has drawn a-lot of attention for so long. The application of face recognition varies from biometric security to automatic tagging in social network.Traditionally, the attendance of students is manually taken by the attendance sheet given to the respective staff members, which is one of the time consuming event. Moreover, it’s difficult to verify one by one student in large

classrooms, distributed by various branches whether the students are present in class or not. So, here the model is to demonstrate, how the face recognition can be use for the attendance system to record automatically the attendance of the students or teachers in the college premises with respect to the universal system time. The modal will automatically identity the face which is in Dataset, and all the record will be getting save in the system along with the labels (i.e. The name of the students and their respective branches).If the model found that the students is new to the premises, it will added as a visitors or new candidate. We say AI (Artificial Intelligence) has become new electricity, as it is applied in all places from securities purposes to social interaction. We want it to apply in the Academic Era or in Industrial area.

Block Diagram:



Conclusion:

Face recognition in attendance system techniques thus proved to be time saving and secured. This system can also be used to identify a newly students and visitors. In real time scenarios CNN outperforms algorithms with better recognition rate and low false positive rate. There are many more algorithms for the face recognition, but CNN giver better result in the field of images and the real time images. The model will convert the images into vector matrix of each picture and will store in the system. When the student comes near the camera, it will automatically read the face and will convert the face into vector matrix and then it will compare to the dataset and then it will identity the students with label and will mark the attendance into the systems.