

AUTOMATED CRIMINAL IDENTIFICATION SYSTEM USING FACE RECOGNITION

Sharnagat Singh¹, Priyanshu Kumar², Animesh Kumar³, Shaily Priya Singh⁴,
Dr. Sachin Dilip Babar⁵

Student, Dept of Computer Engineering, SIT, Savitribai Phule Pune University, Pune , Maharashtra, India.¹

Student, Dept of Computer Engineering, SIT, Savitribai Phule Pune University, Pune , Maharashtra, India²

Student, Dept of Computer Engineering, SIT, Savitribai Phule Pune University, Pune , Maharashtra, India³

Professor, Dept of Computer Engineering, SIT, Savitribai Phule Pune University, Pune , Maharashtra, India⁴

Abstract: *In practice, identification of criminal in Malaysia is done through thumbprint identification. However, this type of identification is constrained as most of criminal nowadays getting cleverer not to leave their thumbprint on the scene. With the advent of security technology, cameras especially CCTV have been installed in many public and private areas to provide surveillance activities. The footage of the CCTV can be used to identify suspects on scene. However, because of limited software developed to automatically detect the similarity between photo in the footage and recorded photo of criminals, the law enforce thumbprint identification. In this project, an automated facial recognition system for criminal database was proposed using known python programming language. This system will be able to detect face and recognize face automatically. This will help the law enforcements to detect or recognize suspect of the case if no thumbprint present on the scene.*

Keywords: *Criminal Identification, Face Recognition, Python, Windows App, Etc*

INTRODUCTION

Face recognition is one of the few biometric methods that possess the merits of both accuracy and low intrusiveness. For this reason since the early 70s, face recognition has drawn the attention of researchers in fields from security and image processing to computer vision. Face recognition has also proven useful in multimedia information processing areas. Face recognition is the task of identifying an already detected object as a known or unknown face. Often the problem of face recognition is confused with the problem of face detection. On the other hand is to decide if the face is someone known, or unknown, using for this purpose a database of faces in order to validate this input face. This project main objective is to create an efficient architecture for face recognition in playing videos using Neural Network. This product which two self contained Neural Network (CNNs) which are used to detect and recognize faces in regions containing a dense grouping of features from Accelerated Segment Test (FAST). Determining if the image of the face of any given person matches any of the face images stored in a database. This

problem is hard to solve automatically due to the changes that various factors, such as facial expression, aging and even lighting, can cause on the image. Among the different biometric techniques facial recognition may not be the most reliable but it has several advantages over the others[2].It is widely used in various areas such as security and access control, forensic medicine, police controls and in attendance management system. The various techniques for marking person are: 1) Signature based System 2) Finger print based System 3) Iris Recognition 4) RFID based System 5) Face Recognition Amongst the above techniques, Face Recognition is natural, easy to use and does not require aid from the test subject.. It is a series of several related problems which are solved step by step: 1. To capture a picture and discern all the faces in it. 2. Concentrate on one face at a time and understand that even if a face is turned in a strange direction or in bad lighting, it is still the same person. 3. Determine various unique features of the face that can help in distinguishing it from the face of any other person. These characteristics could be the size eyes, nose, length of face, skin colour, etc. 4. Compare these distinctive features of that face to all the

Double-Blind Peer Reviewed Refereed Open Access International Journal

faces of people we already know to find out the persons name. Our brain, as a human is made to do all of this automatically and instantaneously. Computers are incapable of this kind of high-level generalization, so we need to teach or program each step of face recognition separately. Face recognition systems fall into two categories: verification and identification. Face verification is a 1:1 match that compares a face image against a template face images, whose identity is being claimed. On the contrary, face identification is a 1:N problem that compares a query face image.

II RELATED WORK:

1. Mayuri S. Takore, Pallavi R. Wankhade, Criminal Face Identification System February 2015 Criminal record usually contains personal information concerning explicit person Alongside photograph. To spot any Criminal we need some identification related to person, that are given by viewer. In most cases the standard and backbone of the recorded image segments is poor and hard to identify a face. To beat this drawback, we tend to are developing code. Identification can be done in various ways like finger print, eyes, DNA etc. One in all applications is face identification. The face is our primary focus of attention in social inters course taking part in significant role in conveying identify and establishing emotion. Though the power to infer intelligence or character from facial look is suspect, the human ability to acknowledge face is outstanding.

2. Nurul Azma Abdullah, Md. Jamri Saidi, Nurul Hidayah Ab Rahman, Chuah ChaiWen, and Isredza Rahmi A. Hamid, Face recognition for criminal identification-Associate Degree implementation of principal component analysis for face recognition, The second International Conference on Applied Science and Technology 2017 In this paper, an automatic face recognition system for criminal info was proposed using known Principal Component Analysis approach. This technique are going to be ready to discover face and recognize face automatically. This can facilitate the law enforcements to detect or recognize suspect of the case if no thumbprint present on the scene. The results show that about 80.

3. E-Crime Detection Using Face Recognition System 8616

Volume three, Issue 2 April 2014. Proposed system is goes to spot criminals at numerous security place like airdrome, railway etc. Video Camera captures a hard and fast range of frames of a person coming in front of sign on counter. Proposed system compares these captured pictures taken through the camera with the pictures of the Criminals which are stored in the database. Proposed system is connection of two stages Face detection using Hear Based Cascade classifier and recognition using Principle Component analysis with Eigen Face. The goal is to implement the system (model) for a selected face and distinguish it from an oversized range of stored faces with some period of time variations as well.

4. Prarthana Sandip Patil, Pournima Paman Patel, Snehal Prakash Sonar, Chaudhari Vrushali Kishor, Crime Identification using 3-D Face Recognition, International Journal of Emerging Technologies in Engineering Research, 2018. The objective of this paper is to assess confront discovery and acknowledgment procedures and provides a complete image based mostly face location and acknowledgment with higher truth, higher reaction rate associated an underlying advance for video observation. Arrangement is planned in light of performed tests on totally different face made databases as so much as subjects, stance, feelings and light.

5. Ashutosh Chandra Bhensle, Rohit Raja, An Efficient Face Recognition using PCA and Euclidean Distance Classification, IJCSMC, 2014. Person identification using face is incredibly exigent and knotty drawback. Recognition of a person from an arbitrary perspective is crucial necessities for security measures and access management. Recognition of a specific face may be useful for countless issues like person laptop interaction, criminal detection, etc. The present system has additional calculation because of higher dimensional and no more effectual still. Rather than feat of face vectors with high speciality it is higher to use face vectors with lower speciality. This enforced face recognition system is easy and comparatively simple to recognize the faces from videos taken from a distance and web cams. The improved PCA rule removes facial expressions and classification is performed by minimum distance classification

III. PROPOSED SYSTEM:

V. REFERENCES:

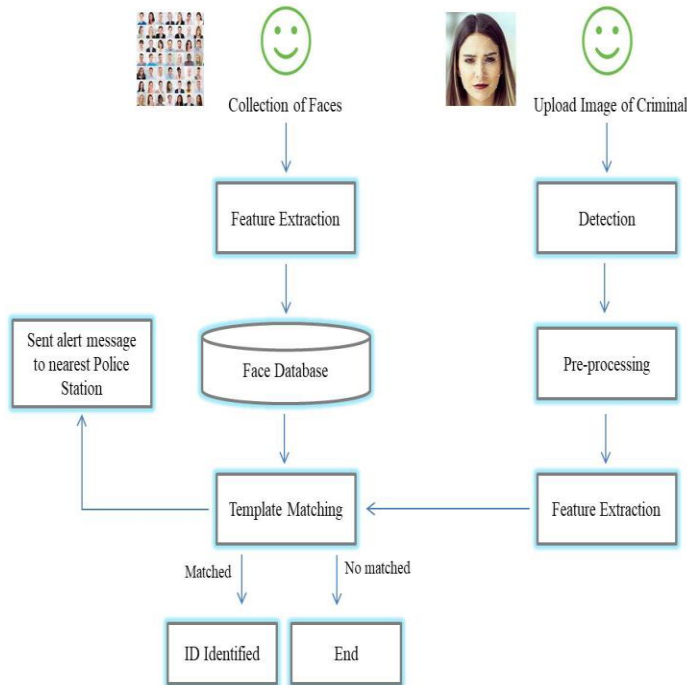


Fig: Proposed System

In this project, System propose a Criminal Detection through Face Recognition. To overcome the drawbacks that were in the existing system we develop a system that will be very useful for any investigation department. Here the program keeps track of images from different sides of faces. Based on this record number the program retrieves the personal record of the suspect (which face from comparing and get result more than 90 percent match then show as criminal is identified.

IV. CONCLUSION:

In this system we are going to implement a criminal identification system which will record criminals according to face recognition. It will save time and effort, especially if it is a social place. Automated criminal identification System has been envisioned for the purpose of reducing the drawbacks in the traditional (manual) system. This system demonstrates the use of image processing techniques at public places. This system can not only merely help in the criminal investigation system, but also improve the goodwill of the government.

1. Yang Yang, Zheng-Jun Zha, Heng Tao Shen and Tat-Seng Chua, "Robust Semantic Video Indexing by Harvesting Web Images", S. Li et al. (Eds.): MMM 2013.
2. Chih-Chin Lai; Ying-Chuan Chen, "A User-Oriented Image Retrieval System Based on Interactive Genetic Algorithm", IEEE Transactions on Instrumentation and Measurement, Volume: 60 , Issue: 10, 2011.
3. Beecks, C.; Uysal, M.S.; Seidl, T., "A comparative study of similarity measures for content-based multimedia retrieval", IEEE International Conference on Multimedia and Expo (ICME), 2010.
4. Lin Lin; Chao Chen; Mei-Ling Shyu; Shu-Ching Chen "Weighted Subspace Filtering and Ranking Algorithms for Video Concept Retrieval", IEEE Multimedia, Volume: 18 , Issue: 3, 2011.
5. Sujatha, S. S., "Survey Paper on Various Methods in Content Based Information Retrieval", International Journal Of Research In Engineering & Technology, 2013.