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AI Based Criminal and Lost Person Detection in Crowded Area

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ABSTRACT: Face recognition is one among the foremost difficult topics in computer vision these days. its applications starting from security and police investigation to amusement websites. Face recognition software package are helpful in banks, mall, airports, and different establishments for screening customers. European nation and Australia have deployed face recognition at borders and customs for Automatic Passport management. Criminal record typically contains personal info regarding explicit person at the side of photograph. to spot any Criminal we'd like some identification relating to person, that area unit given by looker. In most cases the standard and determination of the recorded image segments is poor and laborious to spot a face. The goal of this paper is to gauge face detection and recognition techniques and supply a whole resolution for image based mostly face detection and recognition with higher accuracy, higher response rate associated an initial step for video police investigation. resolution is projected supported performed tests on varied face wealthy databases in terms of subjects, pose, emotions and light-weight.

KEYWORDS: Face recognition, PYTHON, Image Processing, Criminal, and Computer Vision.

I. INTRODUCTION

Criminal record contains personal data a couple of explicit people alongside photograph. To spot any criminal we want identification relating to that person, that square measure given by the looker. Identification will be done by finger print, eyes, DNA etc. one in every of the applications is face identification. The face is our primary focus of attention in intercommunication taking part in a significant role in conveyance identity and feeling. Though it's troublesome to infer intelligence or character from facial look, the human ability to recollect and acknowledge faces is outstanding. A face recognition system uses an info of pictures and compares another image against those to seek out a match, if one exists. For every facial image, identification will be done exploitation the RGB values for the attention colour, the dimension and height of the face and additionally exploitation numerous ratios that was done by Kovashka and Martonosi.

II. METHODOLOGY

This method is aimed to spot the criminals in any investigation department. Picture a crowded street. Police are searching for a man believed to have committed a violent crime. To find him, they feed a photograph into a video surveillance network powered by artificial intelligence. A camera, one of thousands, scans the street, instantly analysing the faces of everyone it sees. Then, an alert: The algorithms found a match with someone in the crowd. Officers rush to the scene and take him into custody. But it turns out the guy isn't the one they're looking for – he just looked a lot like him. The machines were wrong. Therefore, this method provides a really friendly setting for each the operator and therefore the looker to simply establish the criminal, if the criminal's record exists within the info. This project is meant to spot an individual exploitation the photographs antecedent taken. The developed system is additionally a primary milestone for video based mostly face detection and recognition for police investigation in mall area.

III. WORKING

Face Recognition for Criminal Identification may be a face recognition system within which the protection skilled can input an image of the person in question within the system and also the system can initial pre-process the image which is able to cause unwanted components like noise to be far away from the image. After that, the system can then classify the image based on its landmarks as an example, the gap between the eyes, the length of the jaw line, etc. Then, the



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system will run a quest through the info to seek out its excellent match and show the output. This work is focusing on implementing the system for criminal identification. Current apply of fingerprint identification that is easy and easy to be enforced is challenge by the utilization of latent fingerprint and typically cannot be no heritable from the crime scene. The criminals became cleverer and usually be terribly careful in going away any fingerprint on the scene.



Fig: Block Diagram

This system encompassed face info and a picture process algorithmic program to match the face feed with faces keep in the info. There are 2 elements important to the success of this system; detection and recognition. A face detection is one in all the most important steps in a face recognition system and will be classified into four principle categories; information based, feature invariant, model matching and appearance-based ways. In recognition, 2 stages are required; training method and analysis method.

IV. REQUIREMENT

By conducting the requirements analysis we listed out the requirements that are useful to restate the problem definition. A. Insert the image into database

- B. Split the image into no of parts.
- C. Merge the parts.
- D. Identify the image.

E. Draw image manually.

F. Maintain separate login for admin and operator.

Maintain information about each criminal.

V. MODULE DESCRIPTION

User Interface Module:

Mainly every application has one user interface for performing the entire application. The user interface designed is based on the end users. It is used for assigning user with the system.

Admin Module:

1) New criminal information.

2) Delete: Administrator have permission to delete the user id & password of unwanted criminal records.

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3) Update: First the details of criminal are to be obtained by using face data.

Polis station Module:

- 1) Login: user can log in to home page by entering id & password.
- 2) Adding Details: Personal details of criminal store in to data base.
- 3) Update Process: Enter criminal id and obtain his details.
- 4) Delete Process: Enter criminal id want to delete.
- 5) Logout: Logout in to the home page.

Database Operations Module:

1) Add faces: In that details of the criminals along with the details of the criminal photo. While adding the details of the criminal, we crop the image of the criminal and store those cropped parts in a separate database.

- 2) Delete Module: This module deletes the criminal details along with the photo.
- 3) Update Module: This module used to update criminal person information.

Identify Module:

In that mode person identification in mall, restaurant, using camera module for criminal detection, if any criminal detected in camera module then working signal send to police station and alert signal will be polluted.

Future enhancements:

The Future enhancements of this project include the following:

- 1) The criminal photos size may be differ depends on camera location.
- 2) While selecting one cropped part of the criminal, we can get the full image of the criminals along with details.
- 3) New face constructed by different cropped parts can be saved.

VI. CONCLUSION

Criminal Face Identification System is a challenging problem in the field of image analysis and computer vision that has received a great deal of attention over the last few years because of its many applications in various domains. In this paper we used python for image processing to detect the criminal person in crowded area, if any user detected that time warning signal send to police station via api. Also we use alert signal using system music.

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