

Face recognition report

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Introduction

Face recognition rises from moment that machine started to become more and more intelligent and had the advance of fill in correct or help the lack of human abilities and senses. The subject of face recognition is very old. because of the practical importance of the topic and theoretical interest from cognitive science. Face recognition is not only method of recognizing other people. Even humans also use senses to recognize others. Face recognition has always remains a major focus of research because of its non invasive nature and because it is primary method of person identification. Most images of human faces have eyes, a nose, lips, etc... That rarely changes. So faces are different from each other..

Main Problem

The main problem is that the face recognition system in android phones is not effective in dark mode (night) and the file management system (image management) is not effective as in iPhone and android phones cannot recognize face and automatically make a specific folder for same kind of images.

Motivation

The main motivation for face recognition is because it is consider a passive, no instructive system to verify and identify people and secondly the face recognition system, which is very impressive as compare to other android phones.

Objectives

1. Face recognition systems identify a subject by comparing the subject's image to images in an existing face database.
2. The goal is to detect and locate human faces in image.
- 3.

Scope

A Computational model of face recognition, in particular is interesting because they can contribute not only to hypothetical insights but also in practical applications. Computers that recognize faces could be applied to avoid various problem, which includes criminal identification, security systems, images and film processing and human-computer interaction. For example, the ability to model a particular face and distinguish it from a large number of stored face models would make it possible to effectively improve criminal identification. Even the ability to simply detect faces, as opposed to

recognize them, can be important. Detecting faces in photographs, for instance, is an important problem in automating color film development, subsequently the effect of many enhancement and noise detection techniques depends on the picture content.

Literature Review

S-No	Name of project	year	technique	Drawbacks
1	Mask face detection and recognition	2020	Data sets of Masked face ,real face and simulated masked faces	it did not recognize face with wearing sunglasses and with cap
2	Face Detection and Recognition	20 May 2020	Visual Attention Mechanism Guidance Model in Unrestricted Posture	not effective in dark.
3	Identifying Ethnics of People through Face Recognition	14 Jul 2020	A Deep CNN(convolutional neural network) Approach	
4	Gabor wavelets for face recognition	2016	2D face recognition algorithms using Gabor wavelets for feature extraction	No 3D image detection

Captions

1. this project is about face detection and face recognition of masked face .Due to recent pandemic conventional face recognition technology is ineffective To recognize faces they use three masked face data-sets which include Masked Face Detection Data-set (MFDD) ,Real-world Masked Face Recognition Data-set (RMFRD) and Simulated Masked Face Recognition Data-set (SMFRD).

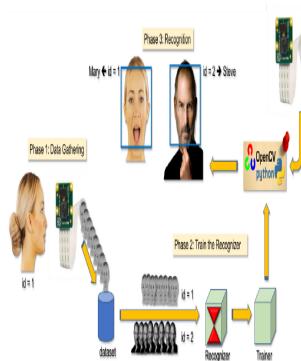
Problem Statement

Considering an image representing a frame taken from video stream, automatic face recognition is particular complex task that includes detection and location of face in a cluttered background followed by normalization and recognition. The human face is very challenging pattern to detect because while its anatomy is rigid and enough so that all faces have same structure, there are a lot of environmental and personal factors affecting facial appearance. The main problem is large variability of recorded images due to use of cosmetic, hairstyles, glasses, beard etc. images of same individual taken at different times, may sometimes exhibit more variability due to interpersonal variability than images of different individual due to gender

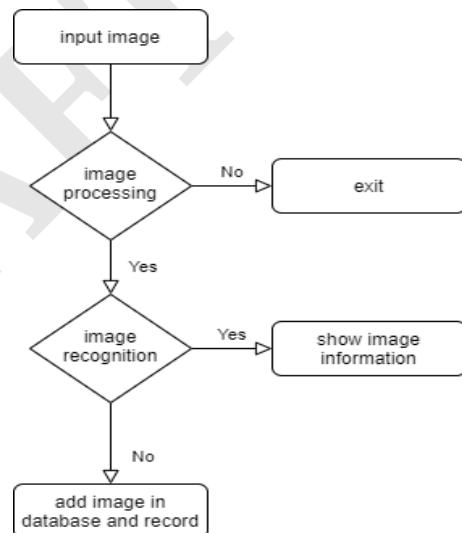
face detection data model



face recognition model



face recognition data model



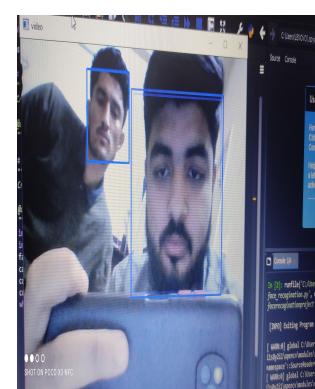
Limitations

The only limitation is that it cannot detect the face with face mask.

Future

In future we can use this in laptop for security through face detection and also use in many other fields.such as room door locks etc.

face detection output



face recognition output



Conclusion

In this project you can detect the face first and then recognize the face. We used the LBPH algorithm for face detection and recognition in this project. LBPH(local binary pattern histogram) is a simple solution on face recognition problem both front face and side face. To solve this problem, a modified LBPH algorithm based on pixel neighborhood gray median(MLBPH) is proposed.

Bibliography

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