

Face Detection



ARTIFICIAL INTELLIGENCE LAB

CSE-418

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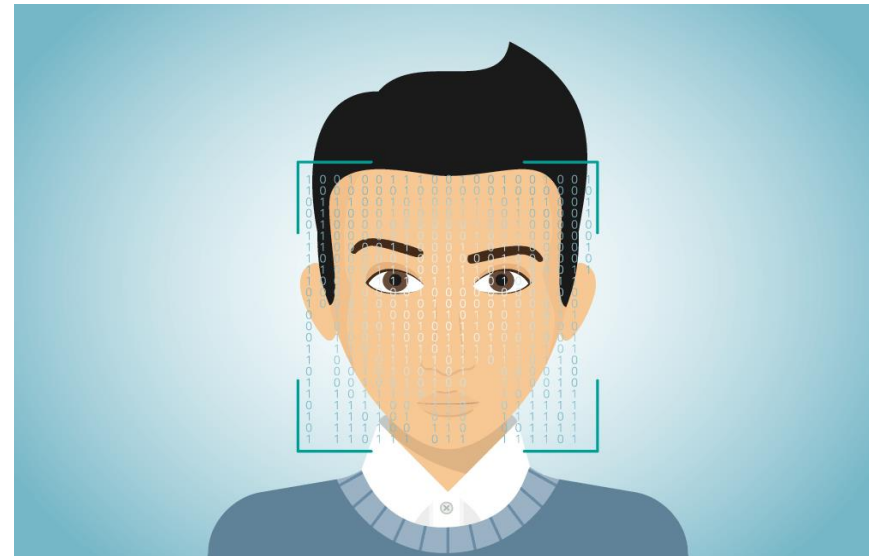
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Objectives

- ▶ Survey major face detection works
- ▶ Future research directions

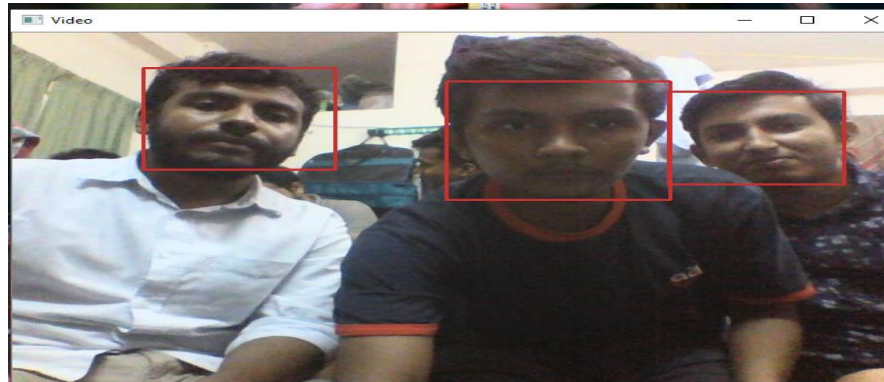
What is Face Detection?

- ▶ Face detection is a computer technology being used in a variety of applications that identifies human faces in digital images.
- ▶ It detects facial features and ignores anything else, such as buildings, trees and bodies.



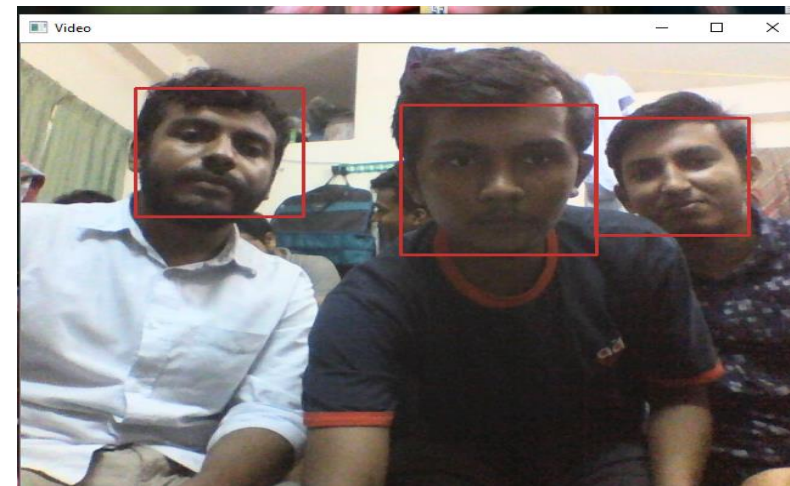
Face detection and Recognition

- ▶ Face detection is a broader term than face recognition. Face detection just means that a system is able to identify that there is a human face present in an image or video or real time.
- ▶ Face detection has several applications, only one of which is facial recognition.



Why face detection

- ▶ It goes with modern era such as while we an unlock a device like mobile phone .
- ▶ security maintenance
- ▶ Not common like java



Methodology

- ▶ Requirement tools:
- ▶
- ▶ OpenCV
- ▶ Python IDLE
- ▶ Laptop(with web cam)

Methodology

- ▶ Face detection is performed by using classifiers. A classifier is essentially an algorithm that decides whether a given image is positive(face) or negative(not a face). A classifier needs to be trained on thousands of images
- ▶ with and without faces.
- ▶ Fortunately, OpenCV already have pre-trained
- ▶ face detection classifiers, which can be used in our program.
- ▶ The two classifiers are:
- ▶ Haar Classifier and
- ▶ Local Binary Pattern(LBP) classifier.
- ▶ In our project, we use the *haarcascade_frontalface*.



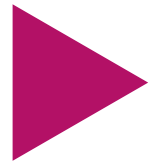
Limitation

- Our project cannot detect the faces accurately in low light



Future Plan

- ▶ Our project can only detect the faces. Not find out the matched faces that stored in the dataset. So we will try to do that in future.



Thank you