PROJECT REPORT

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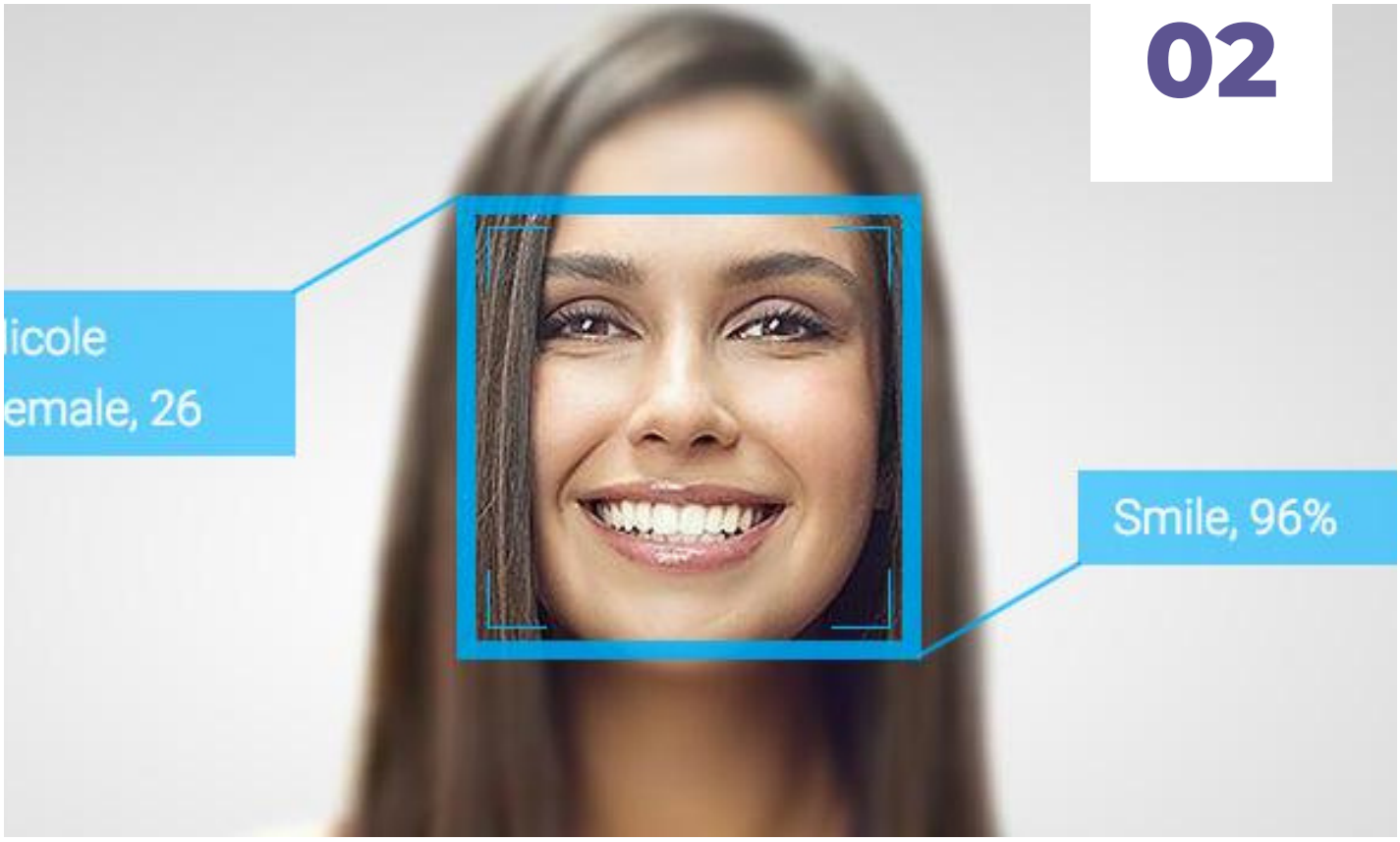
This report is made to deliver a few aspects of the on-going project that need to be evaluated thoroughly.



02

ABOUT OUR PROJECT

These Human facial expressions convey a lot of information visually rather than articulately. Facial expression recognition plays a crucial role in the area of human-machine interaction. Automatic facial expression recognition system has many applications including, but not limited to, human behavior understanding, detection of mental disorders, and synthetic human expressions. Recognition of facial expression by computer with high recognition rate is still a challenging task.

THE PROBLEMS

03

A Brief Description About the Problems

Despite the fact that Everything can be access through online, we have been facing some problems regarding computer behavior. as We assume that this problem is more serious after the pandemic situation, but we need to evaluate more thoroughly to find the best solutions to this problem.

Two popular methods utilized mostly in the literature for the automatic FER systems are based on geometry and appearance. Facial Expression Recognition usually performed in four-stages consisting of pre-processing, face detection, feature extraction, and expression classification. In this project we applied various deep learning methods (convolutional neural networks) to identify the key seven human emotions: anger, disgust, fear, happiness, sadness, surprise and neutrality.

With the advent of modern technology our desires went high and it binds no bounds. In the present era a huge research work is going on in the field of digital image and image processing. The way of progression has been exponential and it is ever increasing. Image Processing is a vast area of research in present day world and its applications are very widespread.

THE SOLUTIONS

04

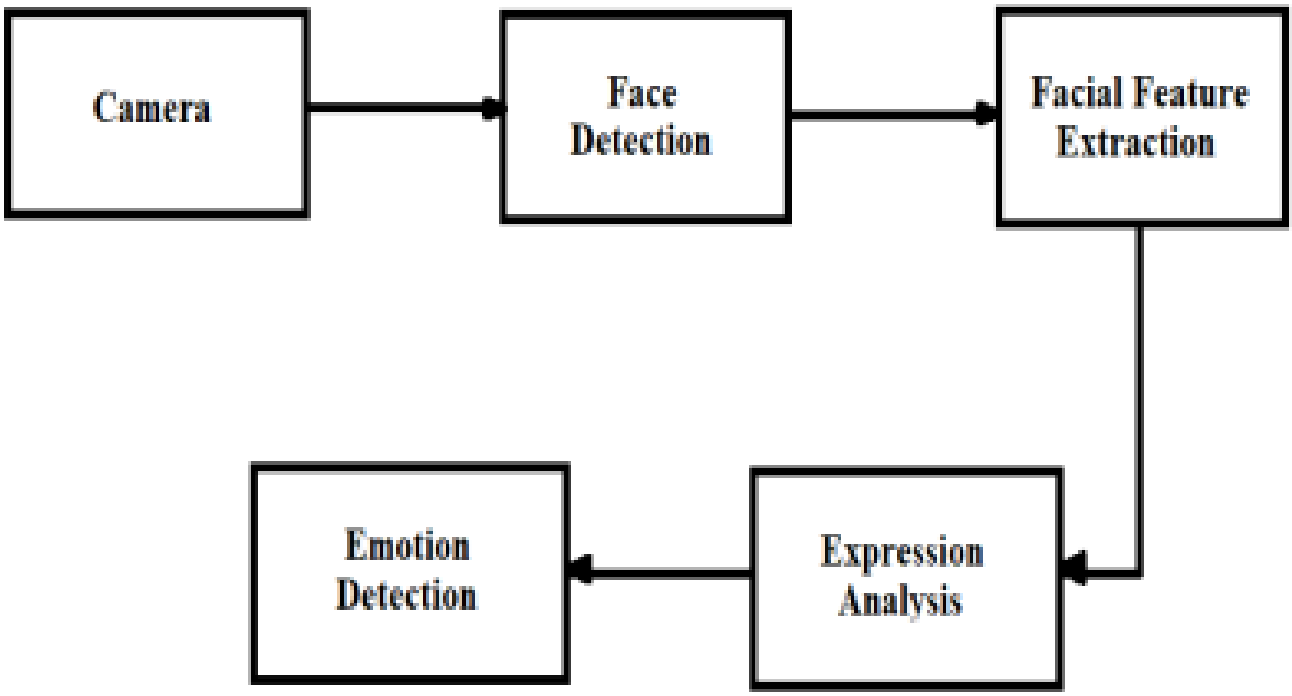
Method of solving

Image processing is the field of signal processing where both the input and output signals are images. One of the most important application of Image processing is Facial expression recognition. Our emotion is revealed by the expressions in our face. Facial Expressions plays an important role in interpersonal communication. Facial expression is a non verbal scientific gesture which gets expressed in our face as per our emotions. Automatic recognition of facial expression plays an important role in artificial intelligence and robotics and thus it is a need of the generation. Some application related to this include Personal identification and Access control, Videophone and Teleconferencing, Forensic application, Human-Computer Interaction, Automated Surveillance, Cosmetology and so on. The objective of this project is to develop Automatic Facial Expression Recognition System which can take human facial images containing some expression as input and recognize and classify it into seven different expression class such as :

I. Neutral
II. Angry
III. Disgust
IV. Fear
V. Happy
VI. Sadness
VII. Surprise

WORK-FLOW

05


Camera
Face Detection
Facial Feature Extraction
Expression Analysis
Emotion Detection

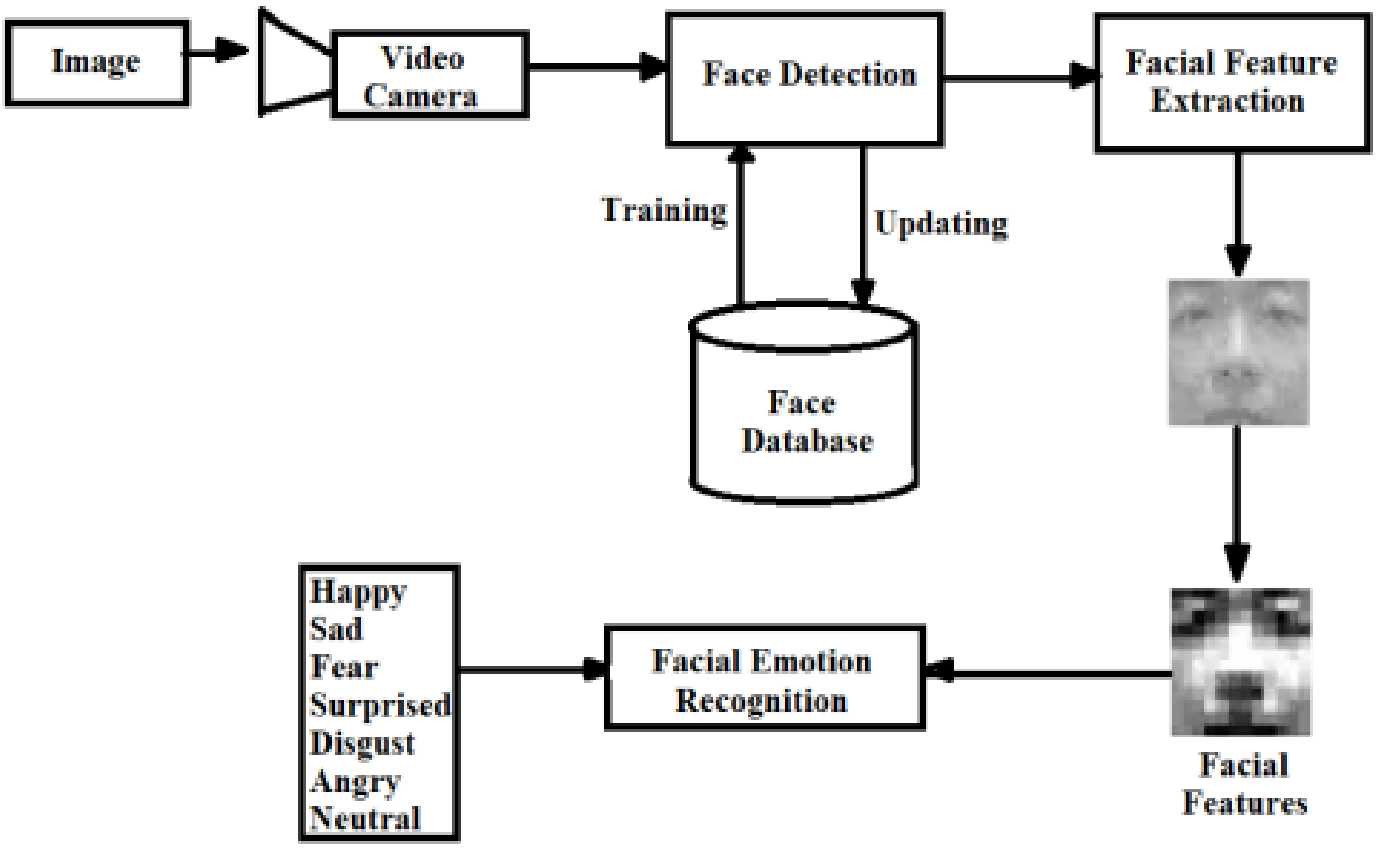
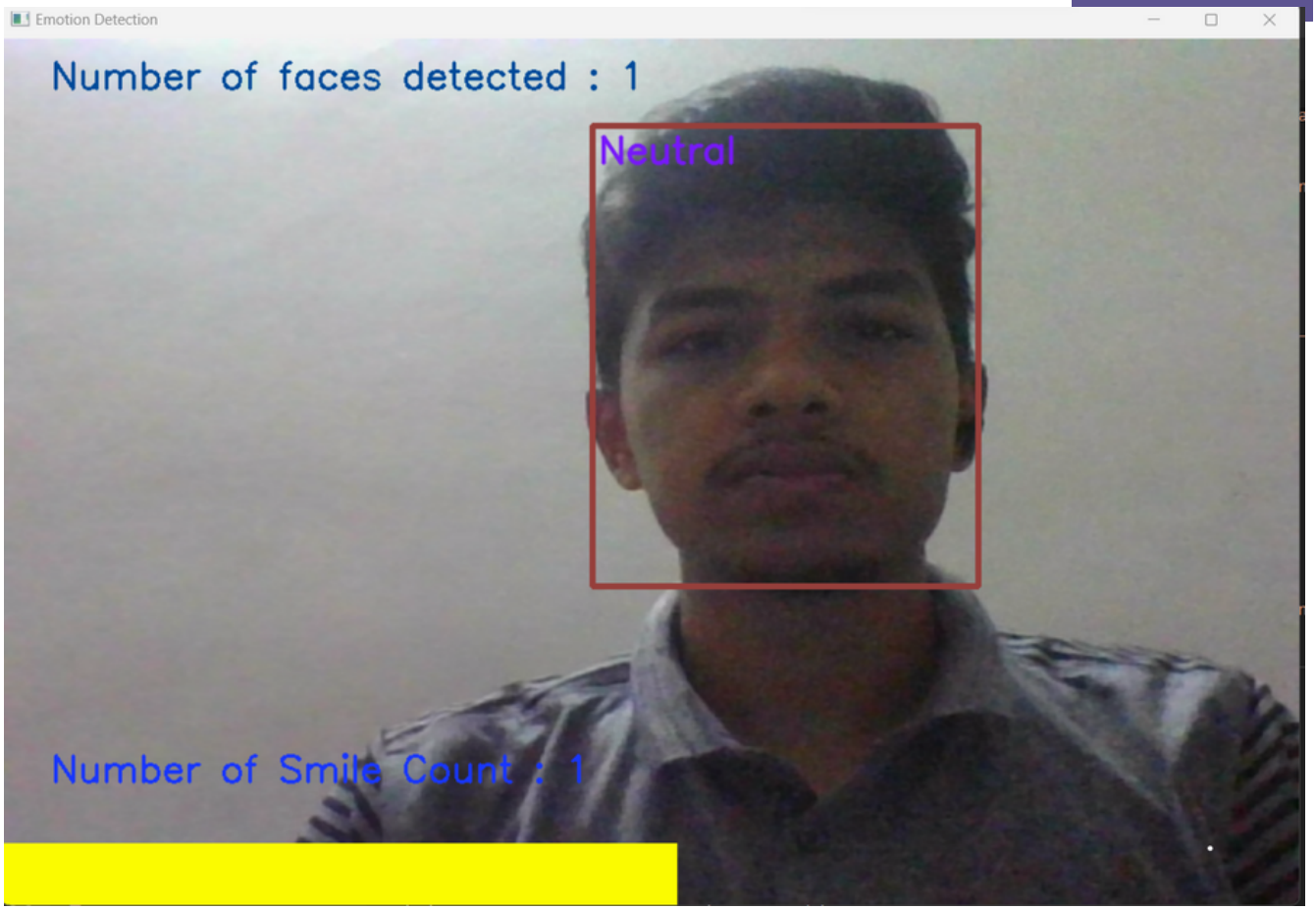
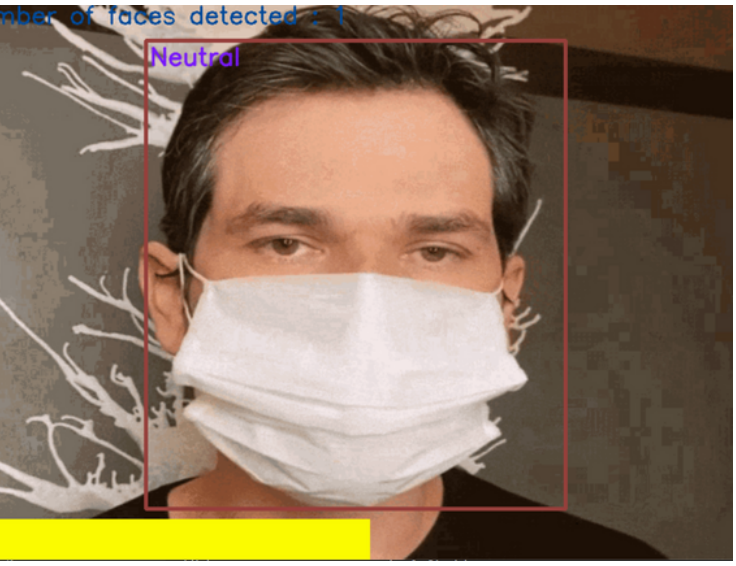


Image
Video Camera
Face Detection
Facial Feature Extraction
Training
Updating
Face Database
Facial Features
Facial Emotion Recognition
Happy
Sad
Fear
Surprised
Disgust
Angry
Neutral

RESULTS:

06


Emotion Detection
Number of faces detected : 1
Neutral
Number of Smile Count : 1


Neutral


Number of faces detected : 12
Sad
Surprised
Sad
Happy
Happy
Surprised
Sad
Fearful
No matter where they're from, or how much mon
parents have, or what they look like

07

PRODUCT OVERVIEW

Humans are well-trained in reading the emotions of others, in fact, at just 14 months old, babies can already tell the difference between happy and sad. But can computers do a better job than us in accessing emotional states? To answer the question, We designed a deep learning neural network that gives machines the ability to make inferences about our emotional states. In other words, we give them eyes to see what we can see.

TEAM :BYTE LEGIONS

TEAM MEMBERS:

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