

PROJECT REVIEW

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PROJECT TITLE

**COMPUTER VISION FOR
EFFECTIVE POLICING SYSTEM
(EPS)**

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Introduction

Coronavirus disease has hit the world hard.

An important protection for people is to wear a mask in public and maintain social distancing.

There are only a few research studies about Effective Policing System.

Computer vision is a field of artificial intelligence (AI) that enables computers and systems to derive meaningful information from digital images, videos and other visual inputs — and take actions or make recommendations based on that information.

Problem Definition

- The project is based on the idea that in the present time with COVID-19 becoming one of the most deadliest pandemic in the history of mankind wearing a mask and social distancing has become the most integral part of human beings. Since many people are very careless about the same.
- Object detection will be helpful for the same.
- Object detection is a computer vision technique that allows us to identify and locate objects in an image or video. With this kind of identification and localization, object detection can be used to count objects in a scene and determine and track their precise locations, all while accurately labeling them.

Problem Statement

- The goal is to implement a Social distancing and Face mask detection model.
- The development of this system is sophisticated, as COVID-19 has become a public health problem around the world, and also the heavily mutated Omicron variant is spreading so fast, sparing lungs.
- EPS would be of great benefit in the present era since wearing a mask that prevents the transmission of droplets in the air and maintaining an appropriate physical distance between people and reducing close contact with each other can still be beneficial in combating this pandemic.

PROPOSED METHOD

Object detection is a computer vision technique that allows us to identify and locate objects in an image or video. With this kind of identification and localization, object detection can be used to count objects in a scene and determine and track their precise locations, all while accurately labeling them.

MODULES TO COMPLETE IN PHASE III

- **Face Detection :**

Face detection is a computer vision problem that involves finding faces in photos.
Face detection is a non-trivial computer vision problem for identifying and localizing faces in images. Face detection can be performed using the classical feature-based cascade classifier using the OpenCV library or using R-CNN, YOLO etc..

- **Mask Detection :**

With corona virus becoming one of the most deadliest pandemic in the history of mankind masks have become most integral part of human beings. Still many people are careless about the use of masks. Is there a way technology help us find these careless people. Of course yes. WIth the help of computer vision we can detect whether a person is wearing a mask or not.

- **Expression Detection :**

Computer vision has the challenge to detect the facial emotions of humans. Recently, in computer vision and machine learning, it's possible to detect emotion from video or image accurately. In our research will propose a method to classify facial emotion using computer vision

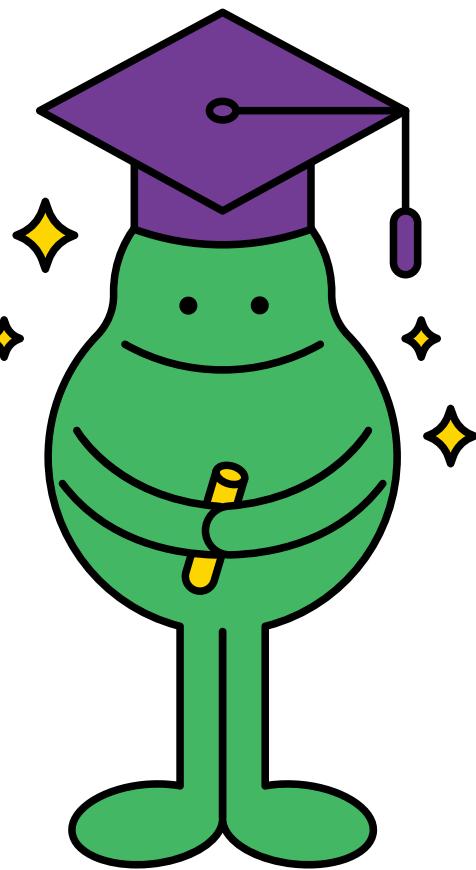
Social Distancing Detector:

We can use computer vision, and deep learning to implement social distancing detectors.

The steps to build a social distancing detector include:

- 1. Apply object detection to detect all people in a video stream**
- 2. Compute the pairwise distances between all detected people**
- 3. Based on these distances, check to see if any two people are less than N pixels apart**

MILESTONES



face Detection - Date of completion : 15/01/2022

Eye and Facial Expression - Date of completion : 30/01/2022

Face Mask Detection - Date of completion : 15/02/2022

Social Distancing - Date of completion : 2/03/2022

Reference

<https://www.irjet.net/archives/V8/i1/IRJET-V8I145.pdf>

<https://ieeexplore.ieee.org/document/8597266>

<https://doi.org/10.1016/j.measen.2021.100258>

Target Conference

ICOES 2022 - <http://icoecs.org/2022/>

ICICIT 2022 - <https://www.vjaei.com/>

IC3 2022 - <https://www.ic3conf.net/>

THANK YOU