Summary

Brief introduction to opencv.

Open cv (computer vision)

Computer vision is a process by which we can understand the images and videos how they are stored and how we can manipulate and retrieve data from them. cv is the base or mostly used for AI.

Open cv

Open cv is the huge open-source library for the computer vision, machine learning etc. now it plays a major role in real-time operation. By using it, one can process images and videos to identify objects, faces, or even handwriting of a human. To identify image pattern and its various features we use vector space and perform mathematical operations on these features. The first open cv version was 1.0. opencv is released under a BSD license and hence it's f it has c++, c, python and java interfaces and supports windows, Linux, mac os, ios and Android.

Application of opencv:-

* face recognition
* Automated inspection and surveillance
* number of people - count.
* vehicle counting on highways along with their speeds
* interactive art installations.

Open cv functionality

* image/video i/p, processing, display
* object/feature detection
* computational photography
* machine learning & clustering.

Image processing

Image processing is a method to perform some operations on an image, in order to get an enhanced image and or to extract some useful information from it.

Computer vision overlaps significantly with the following fields.

* image processing.
* pattern Recognition.
* photogrammetry

pattern Recognition - It explains various techniques to classify patterns

photogrammetry - It is concerned with obtaining accurate measurements from images.

⇒ using opencv, computer vision and deep learning we

⇒ we use opencv, 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 distance between all detected people.

③ Based on these distances, check to see if any two people are less than N pixels apart.