**Enforcing Social Distancing through CCTV Surveillance**

**About the problem :**

In the current Indian public scenario, the lack of civic sense often leads to people cramping into each other at almost every unregulated queue like situation , be it for water , ration of any other general shop , even when it’s not about the queue people might just out of affection forget the distance between them . This can lead to tramission of many infectious diseases espcially the current pandemic Coronavirus which tho has very high recovery rate but it is uncurable as of now . So it is better to avoid the virus altogether than to “hope for the best and continue living as you were living”

**Reason for selection :**

The project aims at enforcing social distancing which people might intentionally not follow because of habit. If implemented properly the project can help to identify potential hot spots before they turn into a larger problem for everyone else. This project reflects a sense of social responsibility.

**Main Objective :**

The main objective of project is being able to detect violations of social distancing among people as observed by a fixed-orientation CCTV camera and to record those violation in a suitable and informative format which can be used for further analysis.

Some examples of violations of social distancing include:

* Two people walking closer than mandated distance (together or in-front of each other)
* A group of people walking together with a density which poses high risk of transmission
* .

Some examples of exceptions

* People on vehicle ( motorcycle )

**Scope of the Object :**

This project is a classic example of one of the uses of Digital Image Processing that is Entity Recognition .

Our initial scope is limited to successfully detecting any violations of social distancing by comparing the distances between among people in the scene if any ( every few frames) .

Although this task in itself is quite complicated than it sounds and implementing an accurate model will take several trial and errors .

To convert the model in to usable product following features might be considered after initial goal is achieved :

* Adding mask detection on faces ( detection of faces is guaranteed when the initial scope of project is implemented successfully )