Person Detection using Deep Learning

Task

Security is a big problem in large corporations and companies. Intelligent video surveillance system, as an indispensable part of the social security management system, has played an essential role in maintaining society's safety and stability.
Person Re-Identification aims to retrieve person identities from images captured by multiple cameras or the same cameras in different time instances and locations.
The objective is to take a query image which is the image of a person and the system will output some of the matching images from the database. This ensures that they keep track of people coming in and going out of the workplaces.
Deep Learning Models are leveraged to build this intelligent Person Re-Identification system. The Deep Learning model we are going to implement is CNN . We'll build upon an already existing research paper and implement the same architecture and try to attain the benchmark accuracy on the datasets available for this task.

Dataset

Dataset used here is https://www.kaggle.com/datasets/constantinwerner/human-detection-dataset. Dataset contains CCTV footage images(as indoor as outdoor), a half of them w humans and a half of them is w/o humans.

Sources of dataset:

1) cctv footage from youtube;
2) open indoor images dataset;
3) footage from my cctv.

The first digit is a class of image, 0 means a scene without humans, and 1 means a scene with humans. There are total 362 images of scenes without human and 559 images of scenes with humans. The total dataset length is 921 images.

Objectives

- Person Detection

- Experiment with different models of image classification.