Sentinel: Intelligent Multi Camera Face Detection, Recognition And Tracking System for Advanced Video Surveillance

Team members

|  |  |  |
| --- | --- | --- |
| Name | Roll no | University Mail ID |
| Rishi Ragav V |  |  |
| Israr Ahmed |  |  |
| Rakshith M B |  |  |
| Md Faizan Usman Sait |  |  |

Problem Statement

Video surveillance aims to gather information, to prevent crime, protect property, person, or object and to inspect the scene of crime. The participants are required to build a pipeline that acquires image from multiple CCTV cameras and carry out face detection, face recognition and tracking of selected individuals.

1.Acquisition :Multiple static CCTV cameras are considered.

2.Face detection & Recognition: detect the faces and recognize the individuals

3. Multiple Person Tracking: Out of the recognized individuals, track target individuals across multiple cameras.

The pipeline must have list of recognized individuals' details, from which the user can select target individuals.

Introduction

Video Surveillance is a very potent tool used in the modern era to monitor people, goods, and services. It is often used in solving cases in all kinds of magnitude and helps in clearing names in cases of mishaps also. But this tool is very inefficient since it takes a lot of processing power to get proper results and the computing power is also in the upside.

As this is the case, many researchers have branched out to figure out ways that would improve the efficiency of this process. Some concentrated areas are computer vision, machine learning, deep learning, neural networks, and algorithms. These approaches have enabled the efficient research in this area leading to a lot of new discoveries and improvements. Traditional video surveillance uses a single camera setup to identify people. But this method is very inefficient. Multi camera setup does not have face recognition and detection features. To overcome these problems and find a bridge between them, improved algorithms have been created to assist with this process.

Abstract

Literature Review and Survey