Object Detection and Tracking

Group 15
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- The problem aim at implementing Object Tracking.
- As data set we have video footage from the surveillance cameras of IITK.
- We need to detect the moving objects in those footage and mark bounding boxes around them.

Method :

1. Basic Image Processing - **Background Subtraction** using Mixture of Gaussians (OpenCV) and finding contours using **findContour()** (OpenCV).
2. **K Means clustering** on these contours. Hand labelling of clusters into various classes - motorcycles , car ...etc
3. **Object detection**
4. **SORT** - Simple Online Realtime Tracking

Method

Using **SORT** as state of the art tracking algorithm, we are now left with implementing better detection algorithms .

Some implementations we tried :

- Pre - trained Object Classifiers with fine tuning on the contours obtained.
- **YOLO** - You Only Look Once

RESULTS :