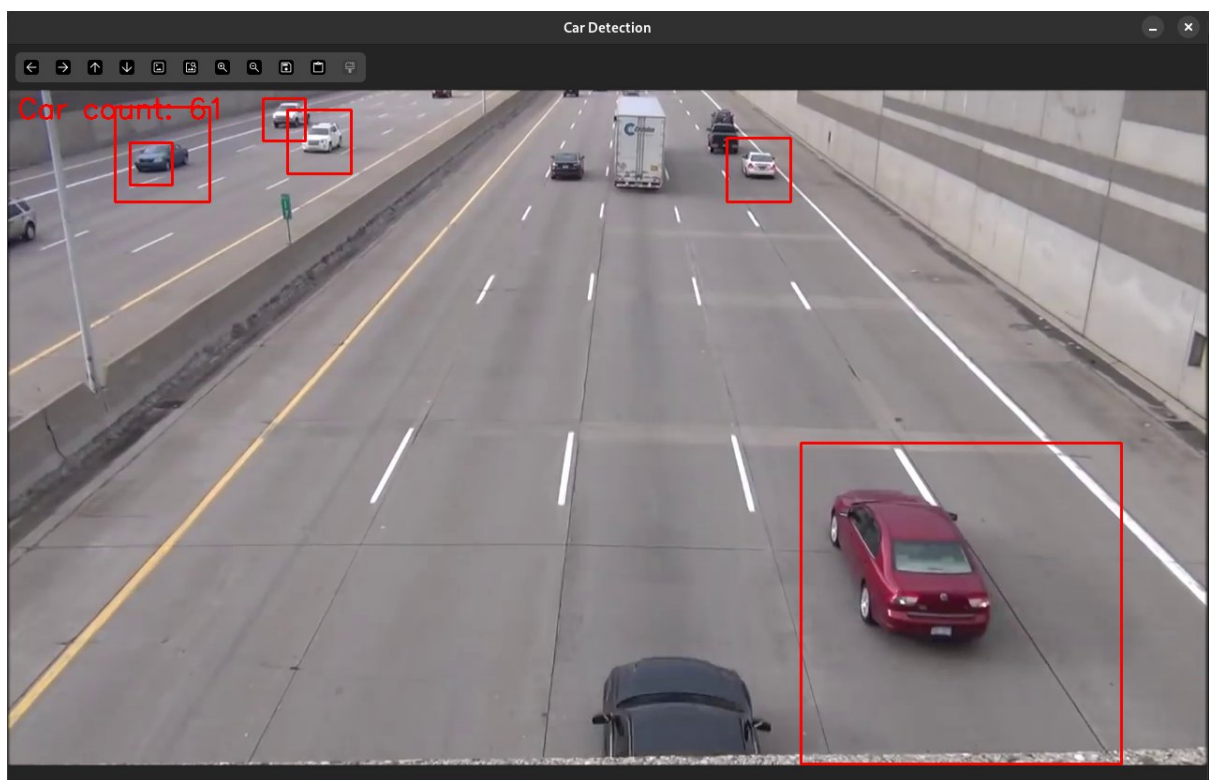


# CGC ASSIGNMENT 6

Name: P.V.Chandrashekar

Roll No.: S20200010154

Output:



## Code:

```
1 import cv2
2
3 cap = cv2.VideoCapture('video2.mp4')
4 car_cascade = cv2.CascadeClassifier(['cars.xml'])
5 fgbg = cv2.createBackgroundSubtractorMOG2()
6 counter = 0
7
8 while True:
9     ret, frame = cap.read()
10    if not ret:
11        break
12    gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
13    cars = car_cascade.detectMultiScale(gray, 1.5, 1)
14    car_mask = gray.copy()
15    motion_mask = gray.copy()
16    for (x, y, w, h) in cars:
17        cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 0, 255), 2)
18        cv2.rectangle(car_mask, (x, y), (x+w, y+h), 255, -1)
19        counter += 1
20    fgmask = fgbg.apply(gray)
21    motion_mask[motion_mask == 255] = 255
22    combined_mask = cv2.bitwise_or(car_mask, motion_mask)
23    result = cv2.bitwise_and(frame, frame, mask=combined_mask)
24    cv2.putText(result, "Car count: {}".format(counter), (10, 30), cv2.FONT_HERSHEY_SIMPLEX, 1, (0, 0, 255), 2)
25    cv2.imshow('Car Detection', result)
26    if cv2.waitKey(1) == ord('q'):
27        break
28 cap.release()
29 cv2.destroyAllWindows()
```