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Assignment
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Assignment 6
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:Question: Object detection using haar cascade classifier.

:author: Arunesh Gour
:Reg. no.: 18BCG10024.

:Topic chosen: Detecting vehicles using haar cascade classifier.

Code
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Python code::

```
  '''
    @author  : Arunesh Gour
    Reg. no. : 18BCG10024.
  '''
  import cv2
  import datetime

  vehicle_classifier = cv2.CascadeClassifier(
    "FDLib/haarcascade_vehicle.xml"
  )

  video = cv2.VideoCapture('SFiles/Vehicle1.mp4')

  while video.isOpened():
    check, frame = video.read()
    frame = cv2.resize(frame, (680, 400))
    gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)

    vehicles = vehicle_classifier.detectMultiScale(gray, 1.3, 5)

    print(vehicles)

    for (x, y, w, h) in vehicles:
      cv2.rectangle(frame, (x, y), (x + w, y + h), (127, 0, 255), 2)
      cv2.imwrite('SFiles/Vehicles/Vehicle_{0}.png'.format(
          datetime.datetime.now().strftime("%d%m%y_%H%M")
        ),
        frame
      )

    cv2.imshow('Vehicle detection', frame)

    if cv2.waitKey(25) & 0xFF == ord('q'):
      break
```

```
    video.release()
    cv2.destroyAllWindows()
```

Links
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* `Video used <https://www.youtube.com/watch?v=nMm0_5Pm3dc>`_.
* `Vehicle classifier xml <https://raw.githubusercontent.com/andrewssobral/vehicle_detection_haarcascades/master/cars.xml>`_.

Output
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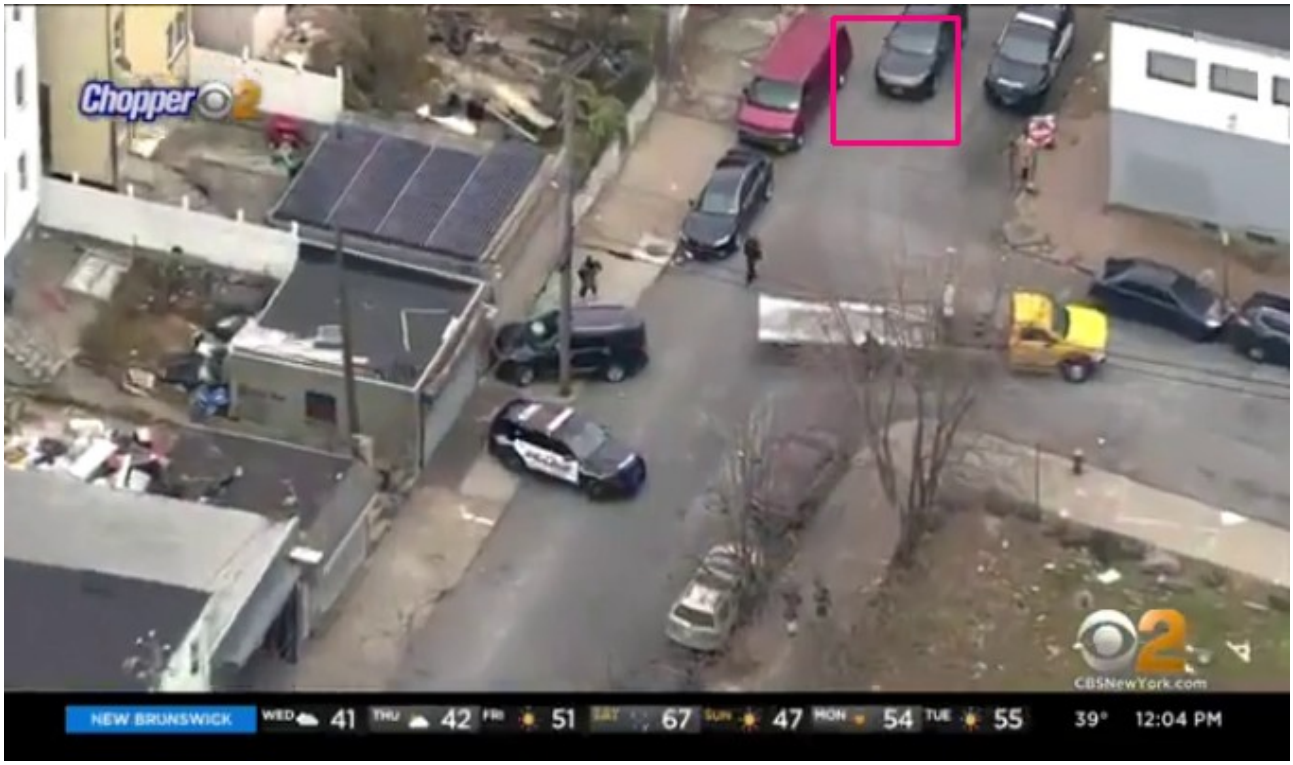

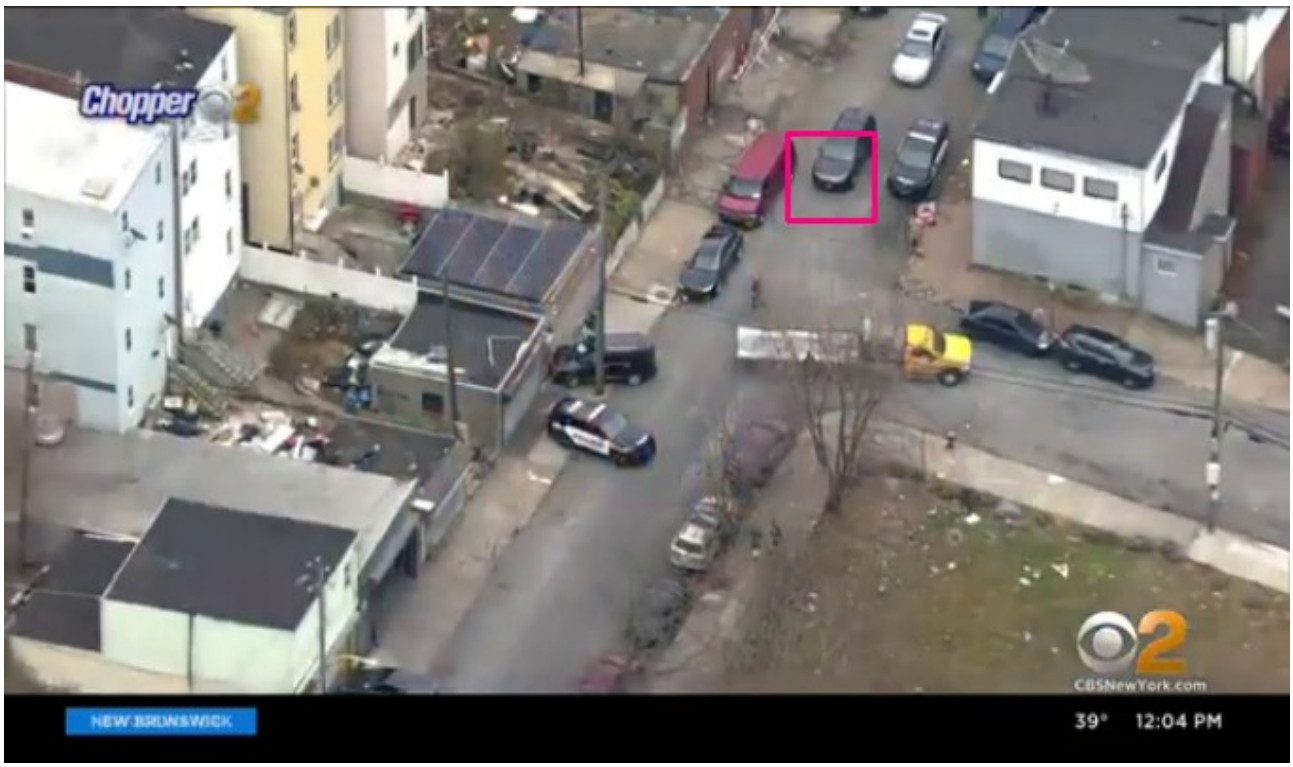
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