```
from PIL import Image
import cv2
import numpy as np
import requests


image = Image.open(requests.get('https://a57.foxnews.com/media.foxbusiness.com/BrightCove/854081161001/201805/2879/931/524/854081161001_
image = image.resize((450,250))
image_arr = np.array(image)
image
```

```
grey = cv2.cvtColor(image_arr,cv2.COLOR_BGR2GRAY)
Image.fromarray(grey)
```

```
blur = cv2.GaussianBlur(grey,(5,5),0)
Image.fromarray(blur)
```

```
dilated = cv2.dilate(blur,np.ones((3,3)))
Image.fromarray(dilated)
```

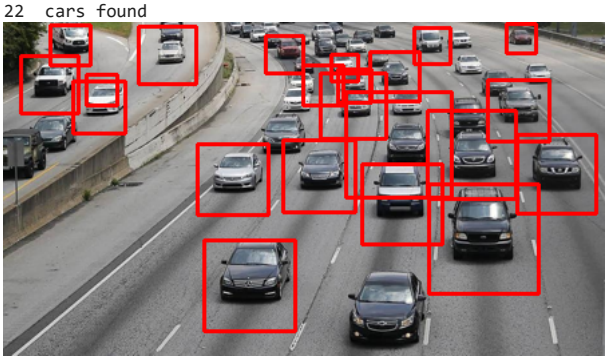
```
kernel = cv2.getStructuringElement(cv2.MORPH_ELLIPSE, (2, 2))
closing = cv2.morphologyEx(dilated, cv2.MORPH_CLOSE, kernel)
Image.fromarray(closing)
```

```
car_cascade_src = 'cars.xml'
car_cascade = cv2.CascadeClassifier(car_cascade_src)
cars = car_cascade.detectMultiScale(closing, 1.1, 1)
cars
```

```
array([[376,   1,  22,  22],
       [307,   4,  27,  27],
       [245,  24,  20,  20],
       [196,  10,  28,  28],
       [ 35,   2,  30,  30],
       [274,  22,  37,  37],
       [250,  35,  25,  25],
       [101,   3,  43,  43],
       [ 13,  25,  43,  43],
       [ 62,  39,  23,  23],
       [224,  32,  30,  30],
       [ 52,  44,  39,  39],
       [237,  38,  49,  49],
       [362,  43,  46,  46],
       [256,  52,  79,  79],
       [209,  88,  54,  54],
       [384,  84,  59,  59],
       [145,  91,  53,  53],
       [317,  66,  66,  66],
       [268, 106,  60,  60],
       [318, 121,  82,  82],
       [150, 163,  68,  68]], dtype=int32)
```

```
cnt = 0
for (x,y,w,h) in cars:
    cv2.rectangle(image_arr,(x,y),(x+w,y+h),(255,0,0),2)
    cnt += 1
print(cnt, " cars found")
Image.fromarray(image_arr)
```

```
22  cars found
```



```
image2 = Image.open(requests.get('https://qph.fs.quoracdn.net/main-qimg-b5c4e39dcd48dddd9e609e6022f74d85', stream=True).raw)
image2 = image2.resize((450,250))
image_arr2 = np.array(image2)
grey2 = cv2.cvtColor(image_arr2,cv2.COLOR_BGR2GRAY)
```

```
bus_cascade_src = 'Bus_front.xml'
bus_cascade = cv2.CascadeClassifier(bus_cascade_src)
bus = bus_cascade.detectMultiScale(grey2, 1.1, 1)
```

```
cnt = 0
for (x,y,w,h) in bus:
    cv2.rectangle(image_arr2,(x,y),(x+w,y+h),(255,0,0),2)
    cnt += 1
```

```
print(cnt, " bus's found")
Image.fromarray(image_arr2)
```

```
1  bus's found
```

✓ 0s completed at 2:35 PM