

YOLO detection

1. Experimental purpose

Drive the car's YOLO detection

2. Experimental path source code

Enter the car's system, end the car program, enter "ip (ip is the car's ip): 8888" in the browser, enter the password "yahboom"

Then log in

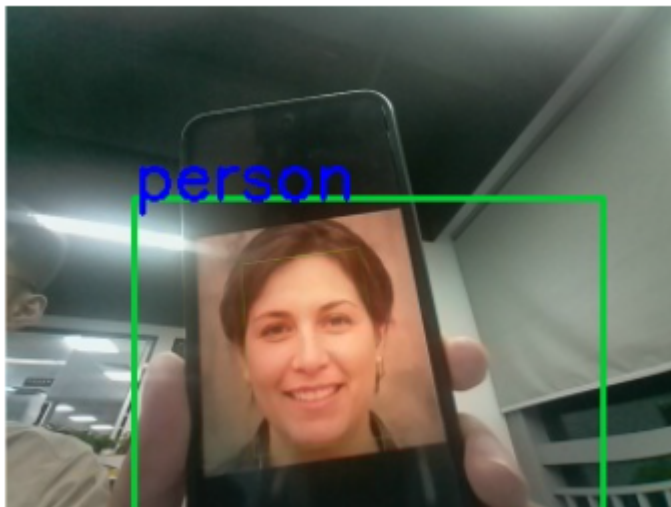
Enter the path **Rider-pi_class/5.AI Visual Recognition Course/10. YOLO detection** and run **yolo.ipynb**.

Or enter the command in the terminal to directly start the python script

```
cd /home/pi/Rider-pi_class/5.AI Visual Recognition Course/10. YOLO detection
python3 yolo.py
```

3. Experimental phenomenon

After running the source code, you can see that the car can detect objects



4. Main source code analysis

```
def yoloFast(self, target="camera"):
    ret=''
    self.open_camera()
    if self.yolo==None:
        self.yolo = yoloxgo('/home/pi/model/Model.onnx',
```

```

['person','bicycle','car','motorbike','aeroplane','bus','train','truck','boat','
traffic light','fire hydrant','stop sign','parking
meter','bench','bird','cat','dog','horse','sheep','cow','elephant','bear','zebra
','giraffe','backpack','umbrella','handbag','tie','suitcase','frisbee','skis','s
nowboard','sports ball','kite','baseball bat','baseball
glove','skateboard','surfboard','tennis racket','bottle','wine
glass','cup','fork','knife','spoon','bowl','banana','apple','sandwich','orange',
'broccoli','carrot','hot
dog','pizza','donut','cake','chair','sofa','pottedplant','bed','diningtable','to
ilet','tvmonitor','laptop','mouse','remote','keyboard','cell
phone','microwave','oven','toaster','sink','refrigerator','book','clock','vase',
'scissors','teddy bear','hair drier','toothbrush'],
[352,352],0.66)
if target=="camera":
    self.open_camera()
    success,image = self.cap.read()
else:
    image=np.array(Image.open(target))
datas = self.yolo.run(image)
b,g,r = cv2.split(image)
image = cv2.merge((r,g,b))
image = cv2.flip(image,1)
if datas:
    for data in datas:
        XGOEDU.rectangle(self,image,data['xywh'],"#33cc00",2)
        xy= (data['xywh'][0], data['xywh'][1])
        XGOEDU.text(self,image,data['classes'],xy,1,"#ff0000",2)
        value_yolo = data['classes']
        ret=(value_yolo,xy)
imgok = Image.fromarray(image)

#Turn the color back
r,g,b = cv2.split(image)
image1 = cv2.merge((b,g,r))
cv2.imshow('frame', image1)#Displayed on the terminal

self.display.ShowImage(imgok)
if ret=='':
    return None
else:
    return ret
my_edu = my_yolo()
#Cycle through camera recognition, press c to exit
while True:
    result=my_edu.yoloFast() #Default parameters, camera recognition is used by
default
    print(result)
    if cv2.waitKey(1) & 0xFF == ord('q'): break

```

Through the source code, the car calls the edu API library and detects objects by turning on the camera.

