code

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```
import ultralytics
import cv2
import urllib3
from ultralytics import YOLO
from picamera2 import Picamera2
urllib3.disable_warnings(urllib3.exceptions.InsecureRequestWarning)
http = urllib3.PoolManager()
urloff = 'http://192.168.1.1/led1on'
urlon = 'http://192.168.1.1/led1off'
#using pi camera
picam2 = Picamera2()
picam2.configure(picam2.create_preview_configuration(main={"format": 'XRGB8888', "size": (640, 480)}))
picam2.start()
#using web camera
# vid = cv2.VideoCapture(0)
# genral model
# model = YOLO('yolov8s.pt')
# triand modle
# model = YOLO('best.pt')


while (True):

    # Capture the video frame
    # by frame using web camer
    #     ret, frame = vid.read()
    #     frame = vid.read()
    #using pi camera
    frame = picam2.capture_array()
    # Check if frame is empty or capture failed
    if frame is None:
        print("Failed to capture frame. Exiting…")
        break
    # used in pi camera
    fram_rgb = cv2.cvtColor(frame, cv2.COLOR_BGR2RGB)
    #input the frame to the model
    results = model(fram_rgb)
    result = results[0]
    for box in result.boxes:
        class_id = result.names[box.cls[0].item()]#get the name of the boxes
        cords = box.xyxy[0].tolist()
        cords = [round(x) for x in cords]
        conf = round(box.conf[0].item(), 2)#Probability
        if (class_id=='horse'):
            print("Object type:", class_id)
            print("Coordinates:", cords)
            startpoint = (cords[0], cords[1])
            endpoint = (cords[2] , cords[3])

            # [49, 144, 370, 480]
            # [x, y, w, h]
            print("Probability:", conf)
            print("---")
```

```
color = (0, 255, 0)
frame = cv2.rectangle(frame, startpoint, endpoint, color, 2)
frame = cv2.putText(frame, 'camel', (cords[0]-5, cords[1]-5), cv2.FONT_HERSHEY_SIMPLEX , 1, color, 2,
cv2.LINE_AA)
resp = http.request('GET', urlon)
print(resp.data.decode('utf-8'))
else:
resp = http.request('GET', urloff)
print(resp.data.decode('utf-8'))
#

cv2.imshow('camel', frame)

# the 'q' button is set as the
# quitting button you may use any
# desired button of your choice
if cv2.waitKey(1) & 0xFF == ord('q'):
break

# After the loop release the cap object
# vid.release()
picam2.close()
# Destroy all the windows
cv2.destroyAllWindows()
```

في الأحد، 2 يونيو 2024 في 10:23 م تمت كتابة ما يلي بواسطة عبدالله الحبسي <abdullah94443977@gmail.com>: