8.3、QR code recognition

8.3.1、Experimental goal

This lesson mainly learns the QR code recognition function, detects whether there is a QR code in the image, and if so, frames and prints the QR code information.

The reference code path for this experiment is：K210_Broad\05-AI\find_qrcodes.py

8.3.2、experiment procedure

The factory firmware of the module has integrated the AI vision algorithm module. If you have downloaded other firmware, please burn it back to the factory firmware and then conduct experiments.

1. Import related libraries, and initialize camera and LCD display.

```
import sensor, image, time, lcd

lcd.init()
sensor.reset()
sensor.set_pixformat(sensor.RGB565)
sensor.set_framesize(sensor.QVGA)
sensor.skip_frames(time = 100)
```

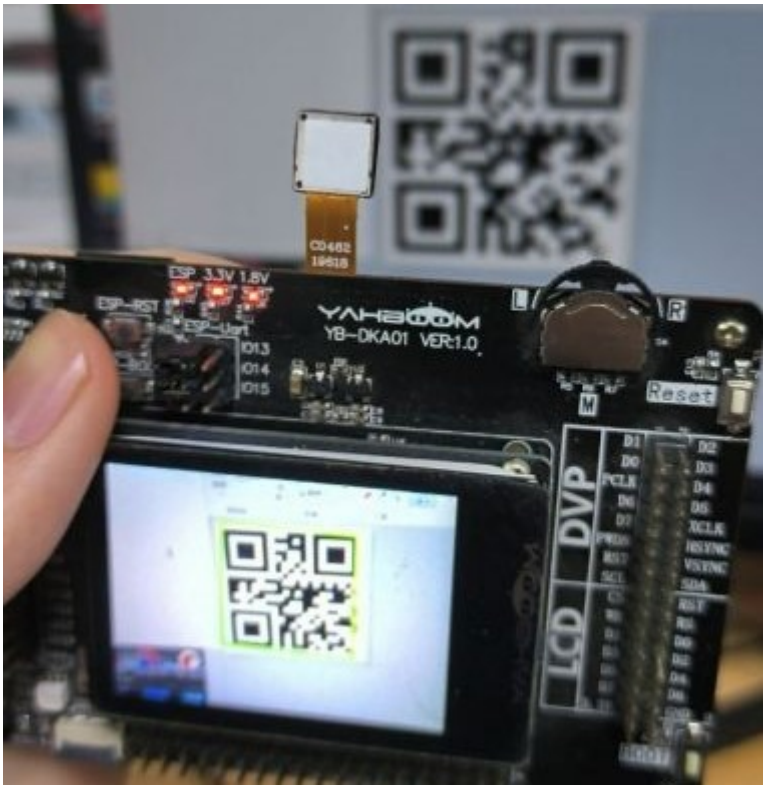
2. Use the built-in find_qrcodes function to find out whether there is a QR code, and if so, frame the QR code and print out the QR code information.

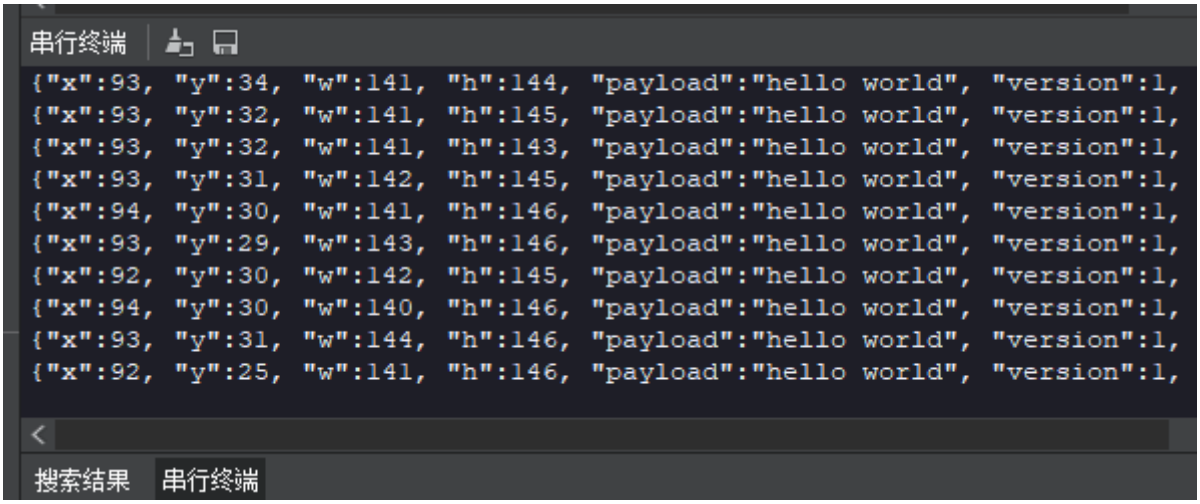
```
clock = time.clock()
while(True):
    clock.tick()
    img = sensor.snapshot()
    for code in img.find_qrcodes():
        img.draw_rectangle(code.rect(), color = 127, thickness=3)
        print(code)
    lcd.display(img)
    #print(clock.fps())
```

8.3.3、Experimental effect

Connect the K210 development board to the computer through the TYPE-C data cable, click the connect button in CanMV IDE, and click the run button after the connection is completed to run the routine code. You can also download the code as main.py to the K210 development board to run.

After the system initialization is completed, the LCD will display the camera screen, and use the camera to capture the QR code, and you can see that the QR code is framed, and the information of the QR code will be printed out on the serial terminal at the bottom of the IDE.





8.3.4、Experiment summary

QR code test recognition can use the test image that comes with the data, or you can search for a QR code generator on the Internet to generate a QR code with your own information added.