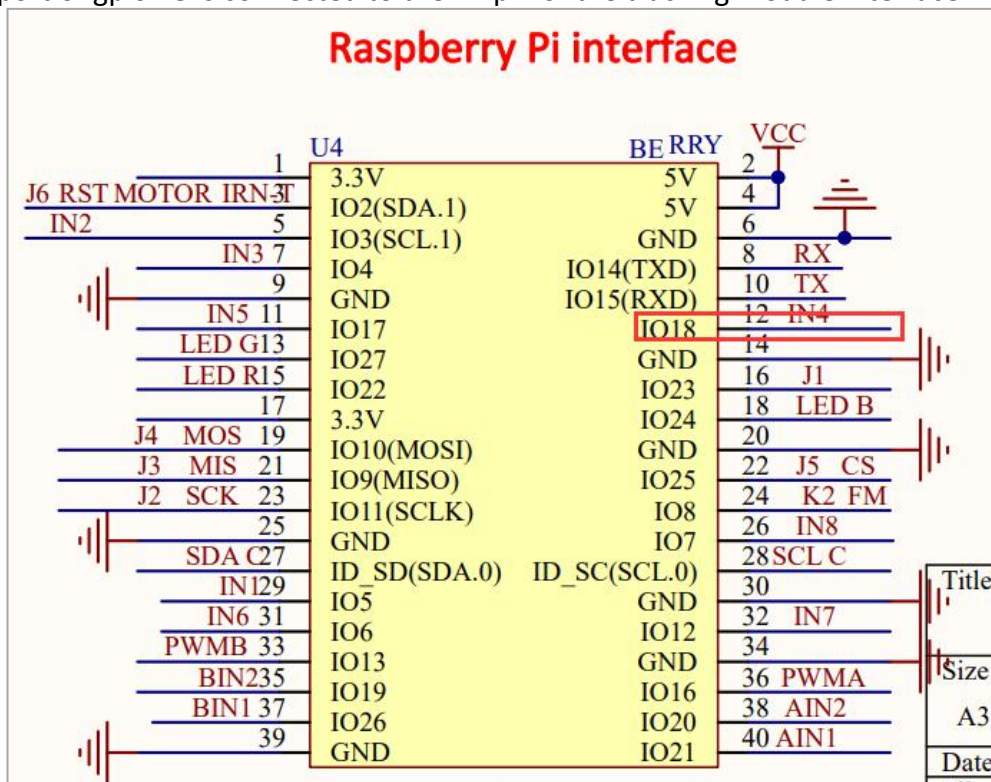


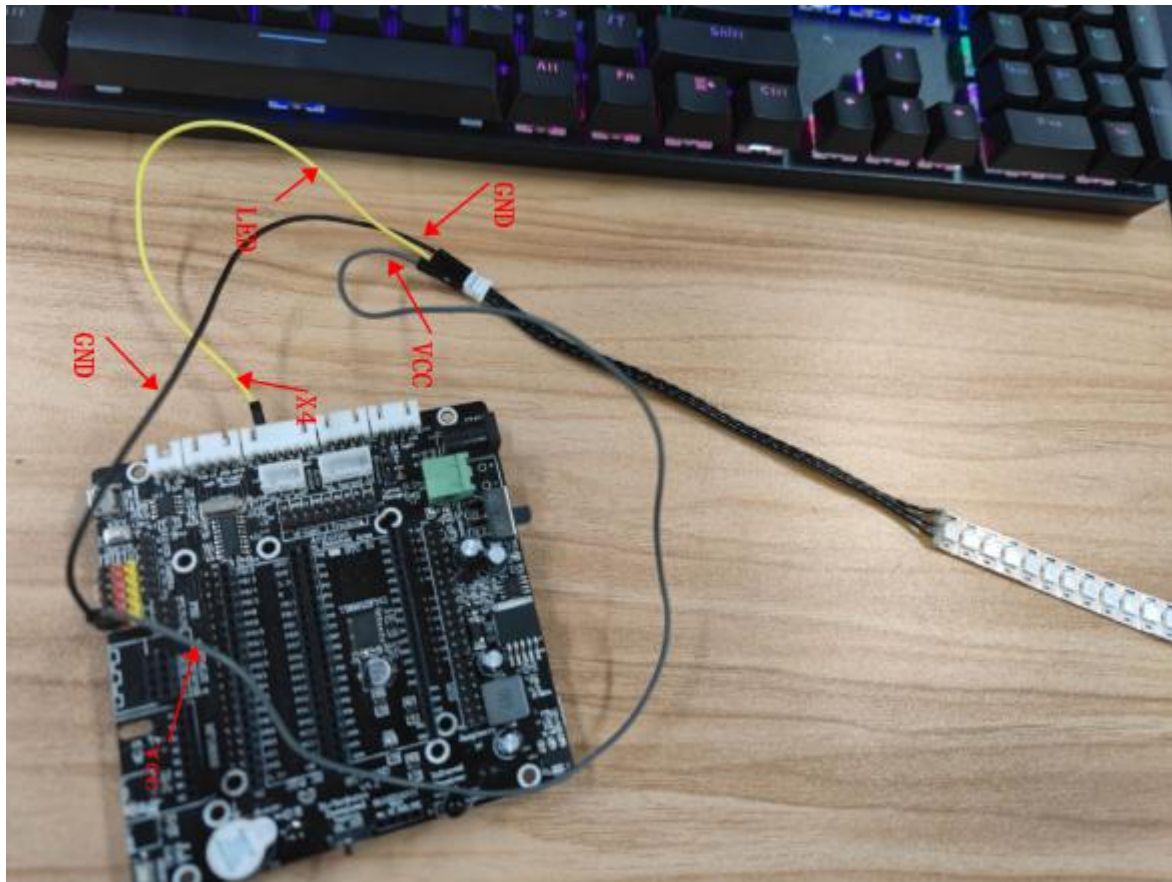
1. Wiring

Please use the expansion board to connect the Raspberry Pi driver light strip. If you directly connect the Raspberry Pi gpio port, there will be a risk of the board being damaged.

Because we use gpio18 in code, according to the schematic diagram of the 4wd expansion board, it can be known that the port of gpio 18 is connected to the X4 pin of the tracking module interface.



classification	Function	Number of SCH	Arduino	STM32	51	PI	wiringPi	BCM
Car movement	Left motor advance	AIN2	8	PB9	P2.1	IO20	28	20
	Left motor back	AIN1	7	PB8	P2.2	IO21	29	21
	Right motor advance	BIN2	2	PB4	P2.4	IO19	24	19
	Right motor back	BIN1	4	PB5	P2.3	IO26	25	26
	Left motor PWM	PWMA	6	PB7	P2.0	IO16	27	16
	Right motor PWM	PWMB	5	PB6	P2.5	IO13	23	13
Tracking	Left 1	IN2	A2	PC14	P1.1	IO3	9	3
	Left 2	IN1	A1	PC13	P1.0	IO5	21	5
	Right 1	IN3	A3	PC15	P1.2	IO4	7	4
	Right 2	IN4	A4	PB12	P1.3	IO18	1	18
Infrared avoid	Left	IN7	A3	PA6	P1.6	IO12	26	12
	Right	IN5	A1	PA4	P1.4	IO17	0	17
seek-light	Left	IN8	A4	PB3	P1.7	IO7	11	7
	Right	IN6	A2	PA5	P1.5	IO6	12	10
Grayscale	Grayscale sensor	GS	A5	PA1	NO	NO	NO	NO
Button	button	K2	A0	PA0	P2.7	IO8	10	8
Buzzer	buzzer	FM	A0	PA0	P2.7	IO8	10	8



Expansion board	RGB bar
VCC-----	VCC
GND-----	GND
X4-----	LED

2. Install the library files

Upload the "rpi-ws281x-python-master.zip" file we provided to the Raspberry Pi, and then enter the following command to decompress the file.

```
#sudo apt-get install unzip
sudo unzip rpi-ws281x-python-master.zip
```

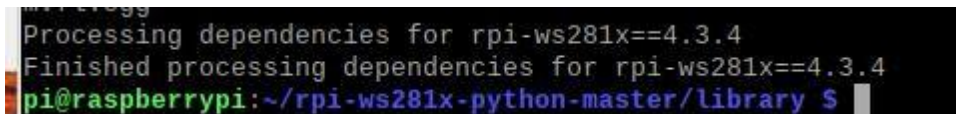
Input "rpi-ws281x-python-master\library" directory

```
cd rpi-ws281x-python-master/library/
```

Input the following command to install the python library

```
sudo python3 setup.py install
```

The system displays the following prompt to indicate that the installation is complete.

A terminal window screenshot with a black background. The text is as follows: 'Processing dependencies for rpi-ws281x==4.3.4' on the first line, 'Finished processing dependencies for rpi-ws281x==4.3.4' on the second line, and a prompt 'pi@raspberrypi:~/rpi-ws281x-python-master/library \$' on the third line. The prompt text is colored: 'pi' is green, '@raspberrypi' is blue, and the rest is white. A white cursor is at the end of the prompt line.

```
Processing dependencies for rpi-ws281x==4.3.4  
Finished processing dependencies for rpi-ws281x==4.3.4  
pi@raspberrypi:~/rpi-ws281x-python-master/library $
```

3.Test

Upload our provided routine "strip_lights.py" file to the Raspberry Pi.

```
sudo python3 strip_lights.py
```