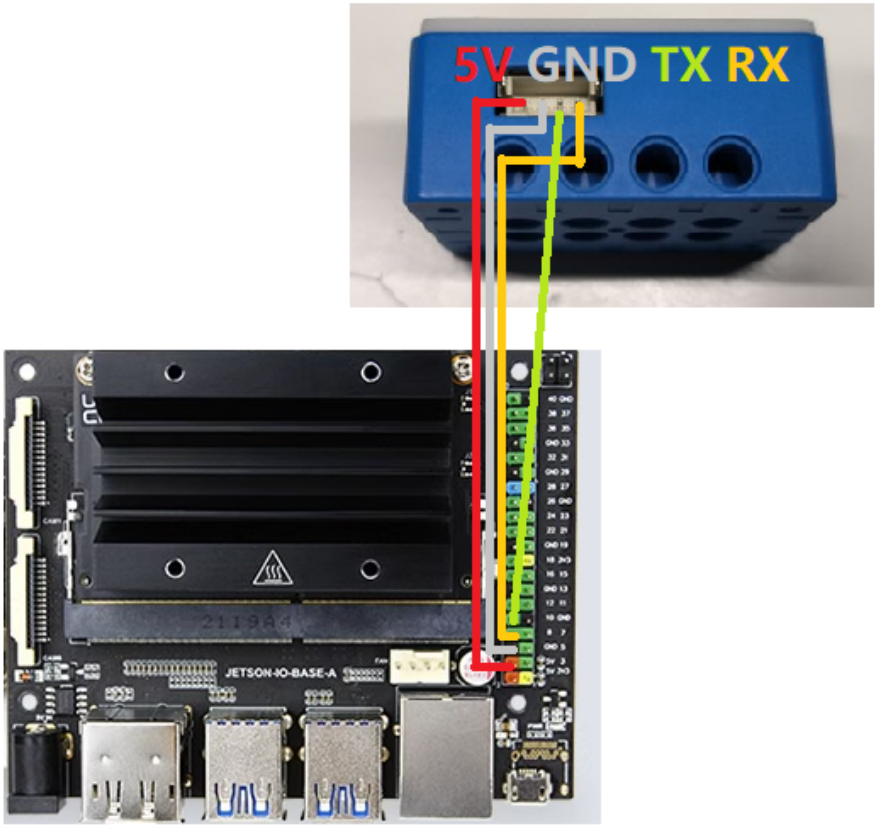
jetson configure camera

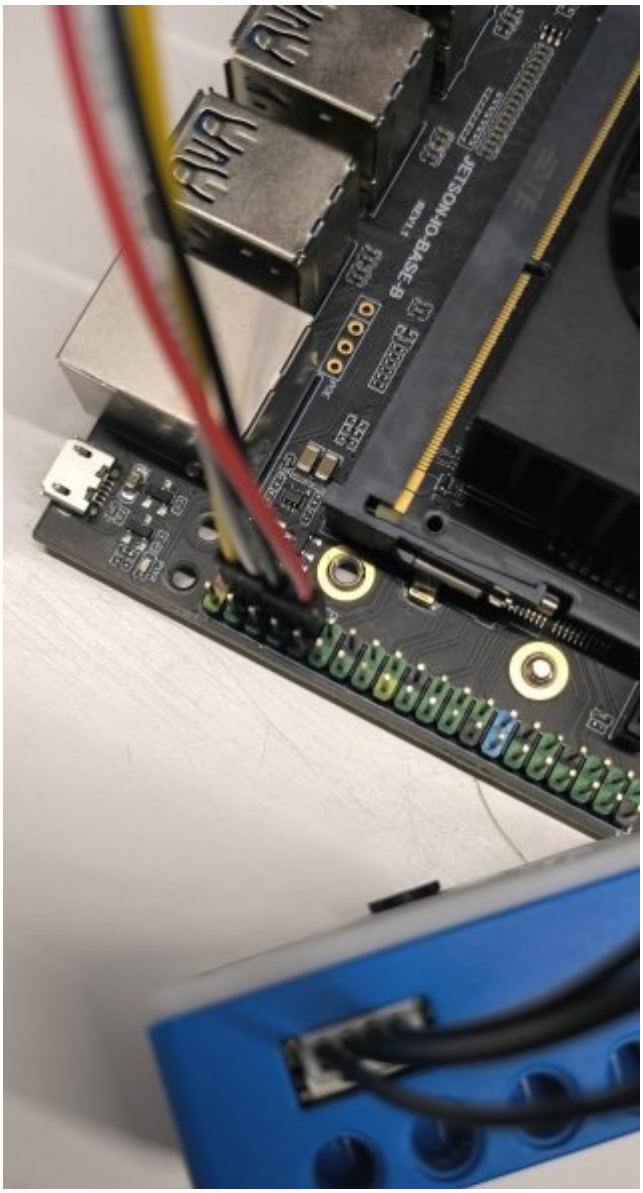
1. Experiment preparation

- jetson
- wifi camera

2. Experimental wiring

as the picture shows





jetson pin diagram

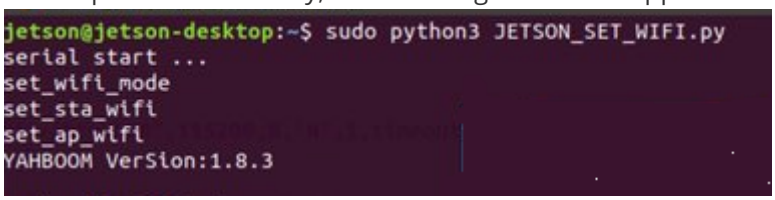
BCM	Name	BOARD	BOARD	Name	BCM
3V3	3.3VDC (Power)	1	2	5.0VDC (Power)	5V
2	I2C_2_SDA (12C Bus 1)	3	4	5.0VDC (Power)	5V
3	I2C_2_SCL (12C Bus 1)	5	6	GND	GND
4	AUDIO_MCLK	7	8	UART_2_TX (dev/ttyTHS1)	14
GND	GND	9	10	UART_2_RX (dev/ttyTHS1)	15
17	UART_2_RTS	11	12	I2S_4_SCLK	18
27	SPI_2_SCK	13	14	GND	GND
22	LCD_TE	15	16	SPI_2_CS1	23
3V3	3.3VDC (Power)	17	18	SPI_2_CSO	24
10	SPI_1_MOSI	19	9	GND	GND
9	SPI_1_MISO	21	20	SPI_2_MISO	25
11	SPI_1_SCK	23	24	SPI_1_CS0	8
GND	GND	25	26	SPI_1_CS1	7
0	12C_1_SDA (12 Bus 0)	27	28	12C_1_SCL (12 Bus 0)	1
5	CAM_AF_EN	29	30	GND	GND
6	CPIO_PZ0	31	32	LCD_BL_PWM	12
13	CPIO_PE6	33	34	GND	GND
19	I2S_4_LRCK	35	36	UART_2_CTS	16
26	SPI_2_MOSI	37	38	I2S_4_SDIN	20
GND	GND	39	40	I2S_4_SDOUT	21

3. Experimental steps and experimental results

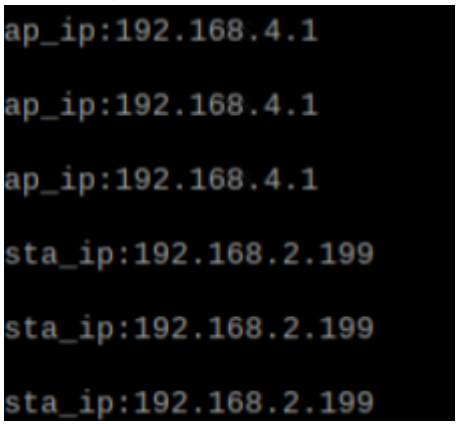
1. Open a new jetson terminal and send the source code of this experiment to jetson.
2. Execute the following instructions

```
python3 Jetson_SET_WIFI.py
```

3. If it is opened successfully, the following results will appear



   This information is related to configuring the camera wifi mode, reading version information and other related operations.
4. If the AP+STA mode is turned on, then the IP addresses of the AP+STA will have the correct IP address (this source code is in this mode)

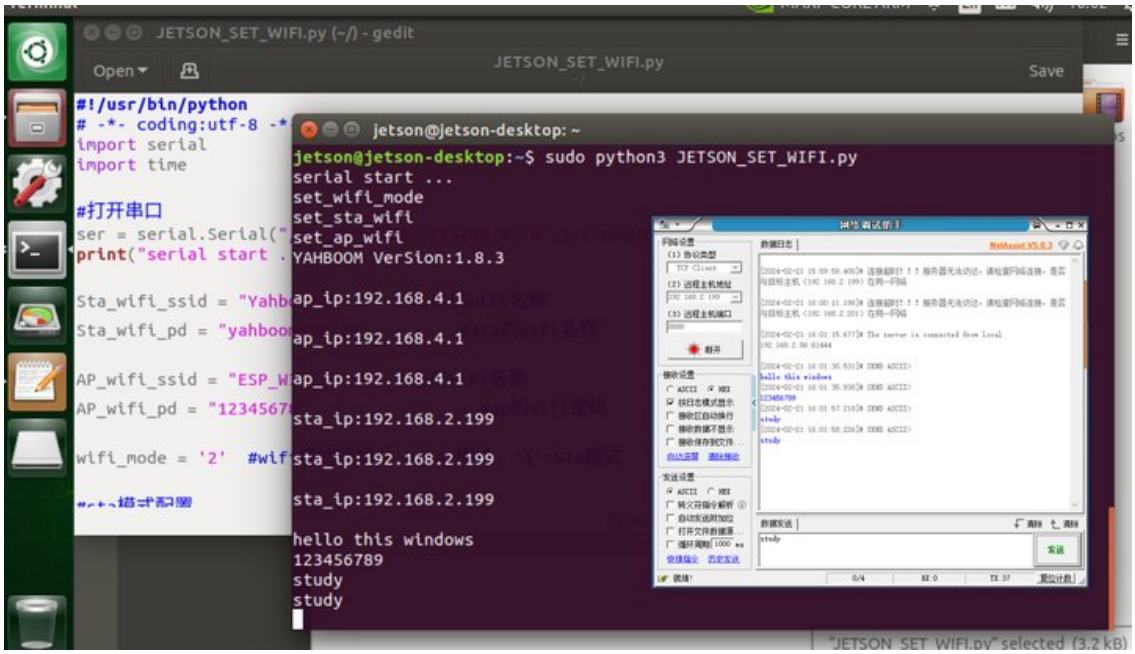


   If only one mode is enabled, then sta_ip:null or ap_ip:null
   When sta_ip:null occurs, you need to check whether the connected wifi name and password are correct. If correct, whether only the AP mode is turned on and the STA mode is not turned on.
5. Transparent data transmission based on IP connection

- First open the **NetAssist.exe** software on your computer and make sure the computer and camera are on the same network segment.
- Then connect according to the obtained IP address. For example, the obtained sta_ip is: "192.168.2.199"/ap_ip is: "192.168.4.1"
- Then there are 2 ways
    1. Connect the computer to the camera's spontaneous wifi, and then connect through the ip 192.168.4.1. The port number is **8888** and cannot be changed.

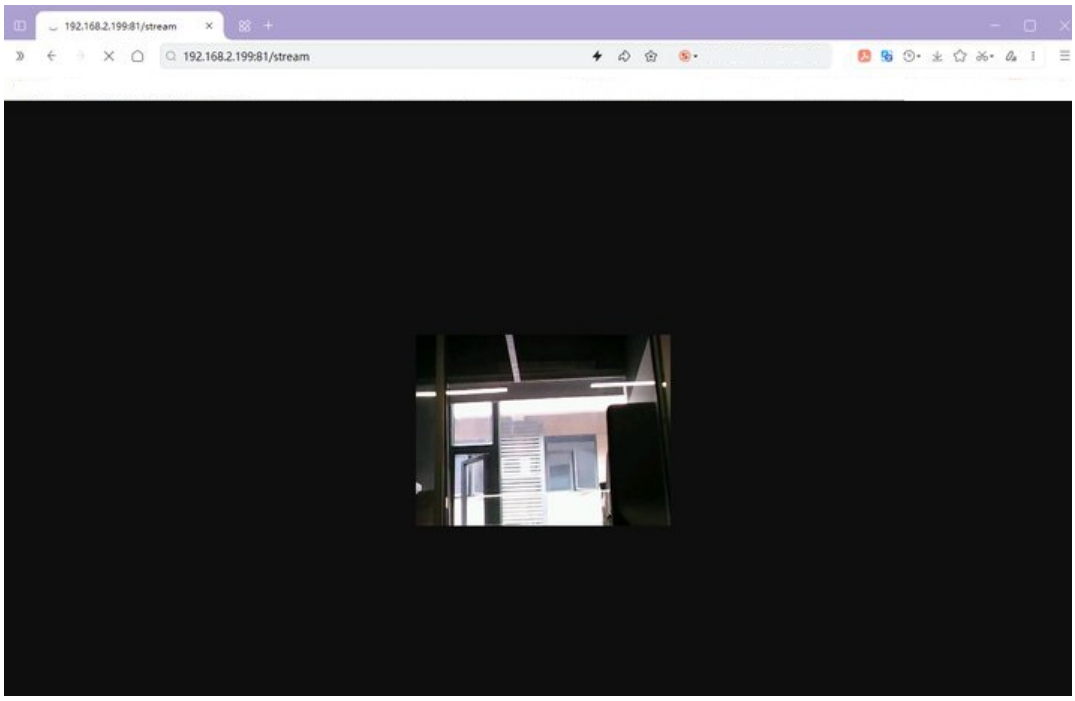
2. The computer is connected directly through the IP address 192.168.2.199. The port number is **8888** and cannot be changed. The following figure is a diagram of a successful connection.

- Then by sending the information, the Raspberry Pi terminal will also print the relevant information



6. View camera footage

- Open the browser on your computer or mobile phone
- Then watch the video through the obtained IP address. For example, the obtained sta_ip is: "192.168.2.199"/ap_ip is: "192.168.4.1"
- Then you can watch the live camera footage in 2 ways
    1. Connect the computer to the camera's spontaneous wifi, and then enter http://192.168.4.1:81/stream through the browser to access the camera screen
    2. Directly enter http://192.168.2.199:81/stream on your computer to access the camera screen.



4. Analysis of wifi configuration source code

```
Sta_wifi_ssid = "Yahboom"
Sta_wifi_pd = "yahboom"

AP_wifi_ssid = "ESP_WIFI_TEST"
AP_wifi_pd = ""

wifi_mode = '2'
```

- **Sta_wifi_ssid**: The wifi name of sta is the name of the wifi to be connected
- **Sta_wifi_pd**: sta's wifi is the password of the wifi to be connected
- **AP_wifi_ssid**: The name of the wifi camera's spontaneous hotspot
- **AP_wifi_pd**: Password for wifi camera spontaneous hotspot
- **wifi_mode**: Working mode of wifi camera '0': AP mode '1': STA mode '2': AP+STA mode