Mspm0g3507 remote control servo gimbal

Note: esp32 camera needs to be burned with factory firmware. If you have not flashed the firmware after receiving the esp32 camera, you do not need to use the factory default firmware

1. Experimental preparation

- ESP32 camera
- Mspm0g3507 development board
- 2-DOF gimbal
- Dupont line

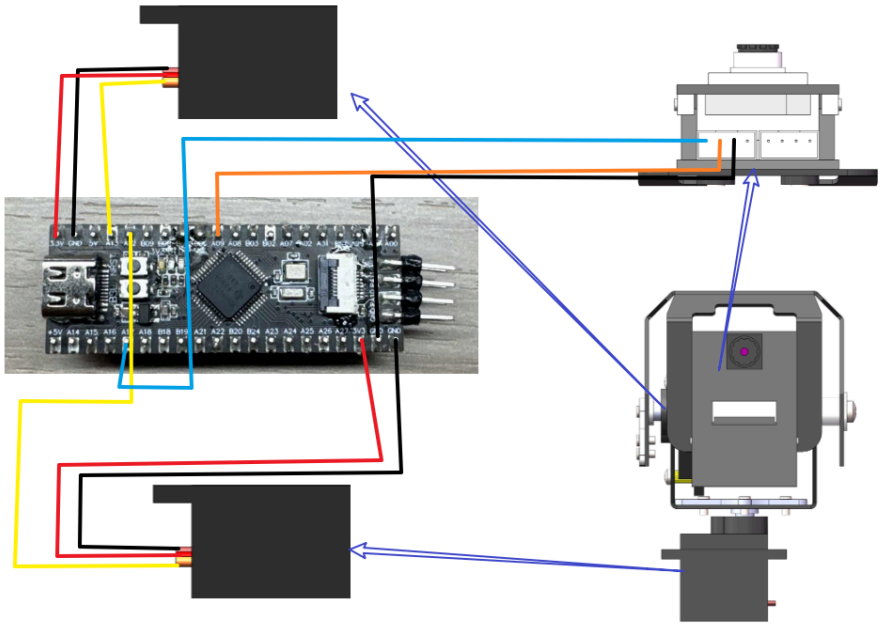
2. Wiring diagram

Note: Due to insufficient voltage, esp32 camera and Mspm0g3507 development board need additional power supply via type-c data cable

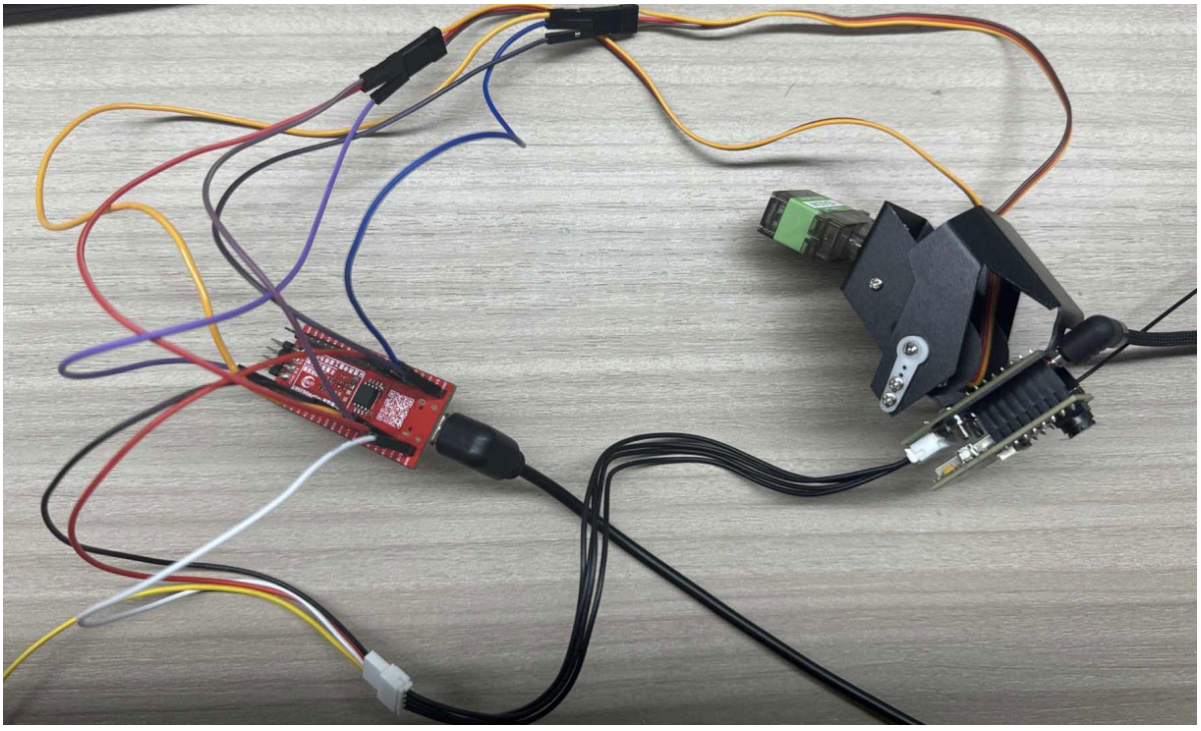
Mspm0g3507	esp32 camera
PA2	RX
PA3	TX
GND	GND
NC	5V

Mspm0g3507	s1 servo
PA13	Signal line
3.3V	
GND	GND

Mspm0g3507	s2 servo
PA12	Signal line
3.3V	VCC
GND	GND



Actual connection diagram:



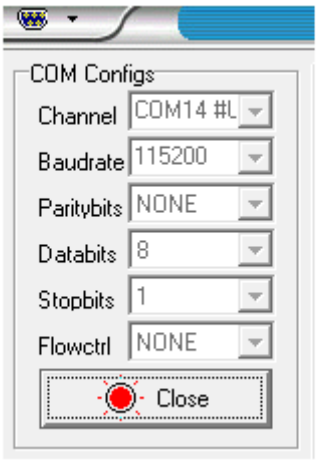
3. Experimental steps and experimental results

1. Check whether the program runs normally
2. You can modify the WiFi name and password you want to connect to, as well as the name of the hotspot in the esp32_wifi.cpp file

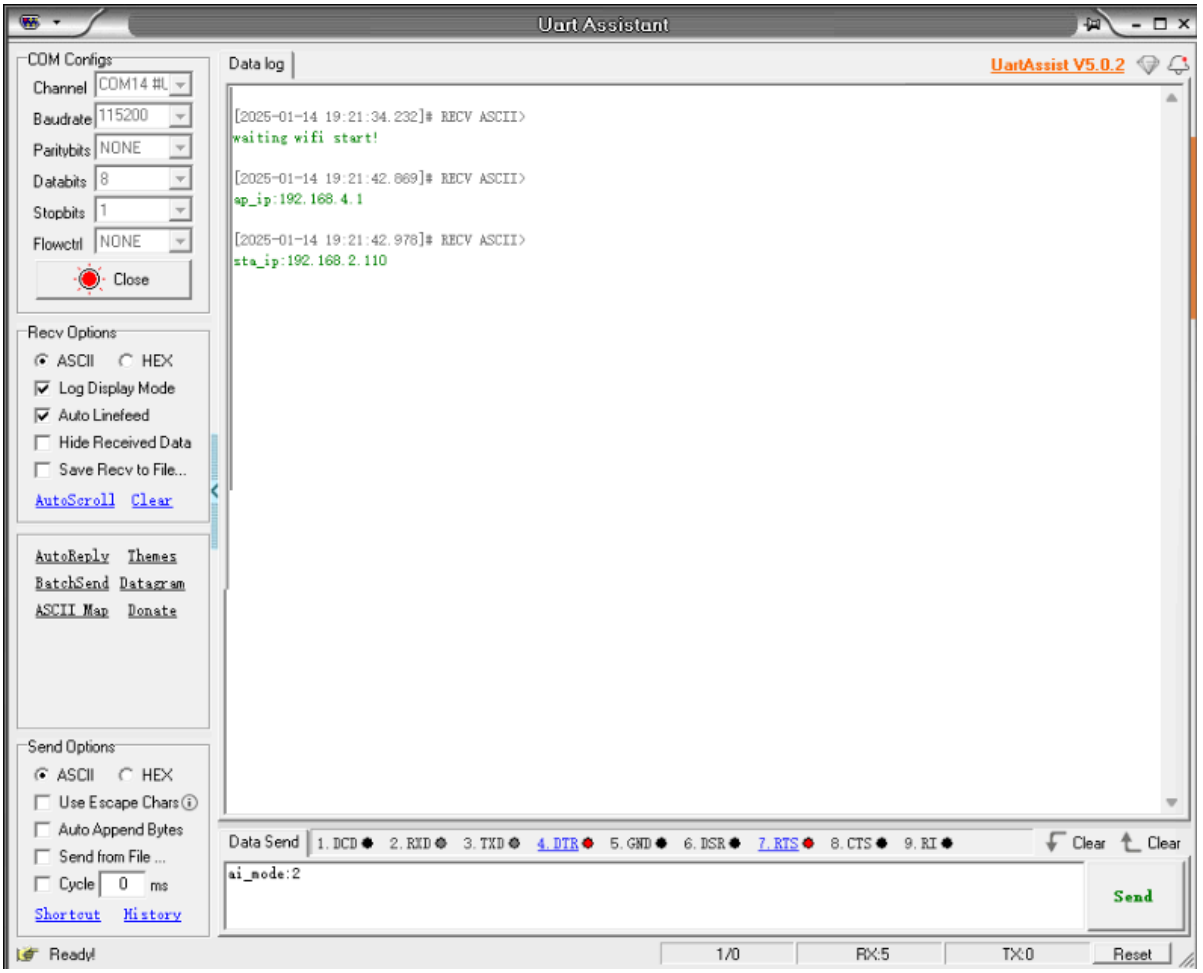
```
#define STAIP "sta_ip"
#define STA_WIFI_SSID "Yahboom2"      //wifi名称 Wi-Fi Name
#define STA_WIFI_PD   "yahboom890729" //wifi密码 Wifi password

#define APIP "ap_ip"
#define AP_WIFI_SSID "ESP32_WIFI_TEST"      //wifi名称 Wi-Fi Name
#define AP_WIFI_PD   "" //wifi密码 -无密码 也可在双引号添加 Wifi password - no password can also be added in double quotes
```

3. Download the program of this project to the mspm0 board

4. Open the serial port assistant on the computer, open the computer to detect the serial port of mspm0, as shown below



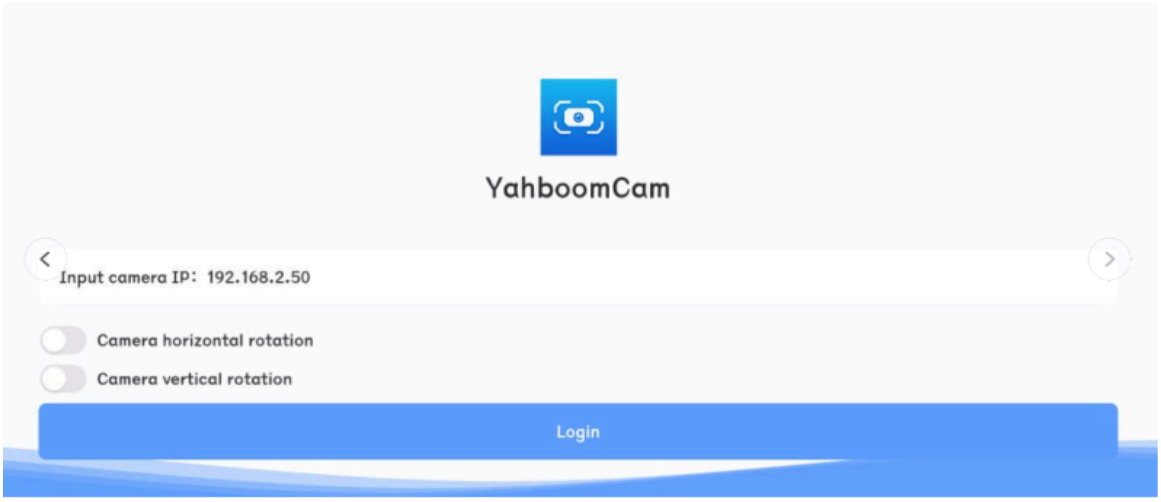
After pressing the reset button of mspm0, the serial port assistant will print out the corresponding information



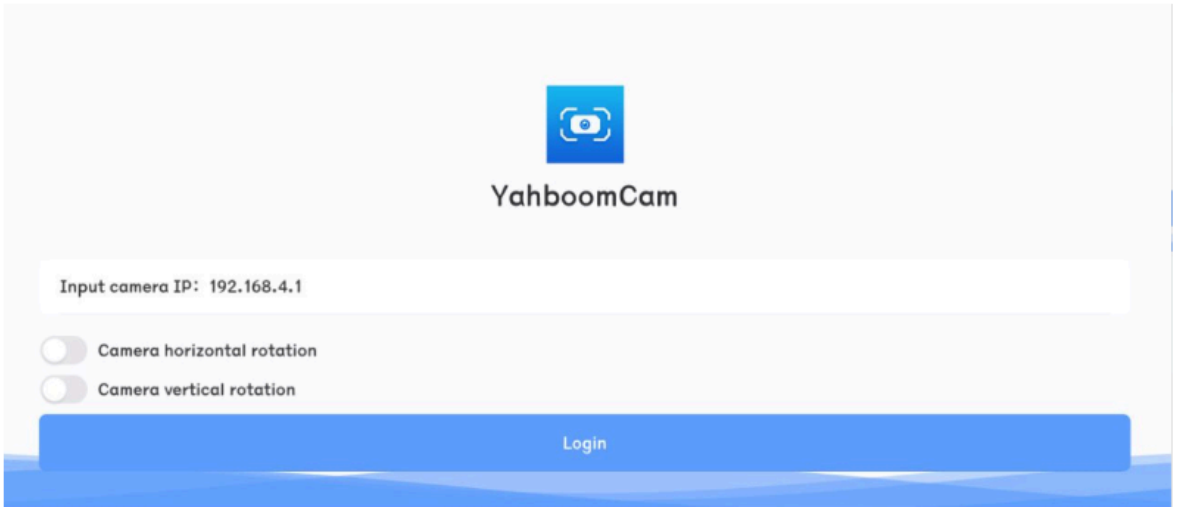
If only one mode is turned on, then sta_ip:null or ap_ip:null
If sta_ip:null occurs, you need to check whether the connected wifi name and password are correct. If correct, is only one AP mode turned on, and not STA mode?

5. Use the app to control the movement of the car. After installing the "ESP32Cam" app, open it.

- On the login page, set the IP address according to the IP address obtained by the serial port assistant. If the IP address obtained by the serial port assistant is "192.168.2.110", the configuration is as follows

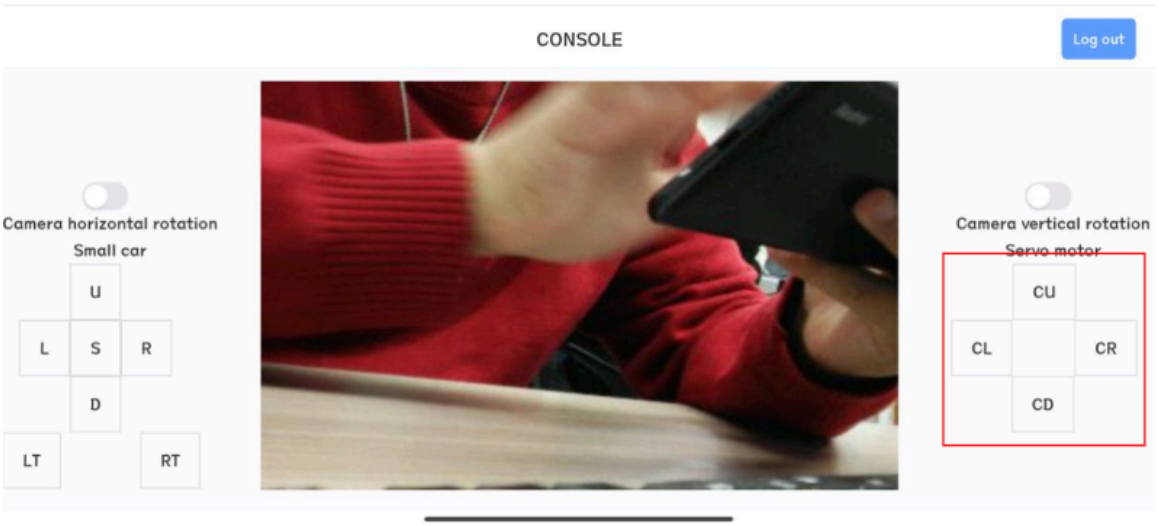


- Then click login directly
- (Optional) If you want to connect to the hotspot of the wifi camera, the IP address must be set to 192.168.4.1, as shown in the figure



- When the IP address is configured correctly and successfully connected, you can control the servo gimbal through the app console page

Horizontal screen



Note: Every time you restart the app, you need to click the exit button in the upper right corner, then exit and reconfigure the IP address information before logging in