4wd-uno board and camera

1. Experiment preparation

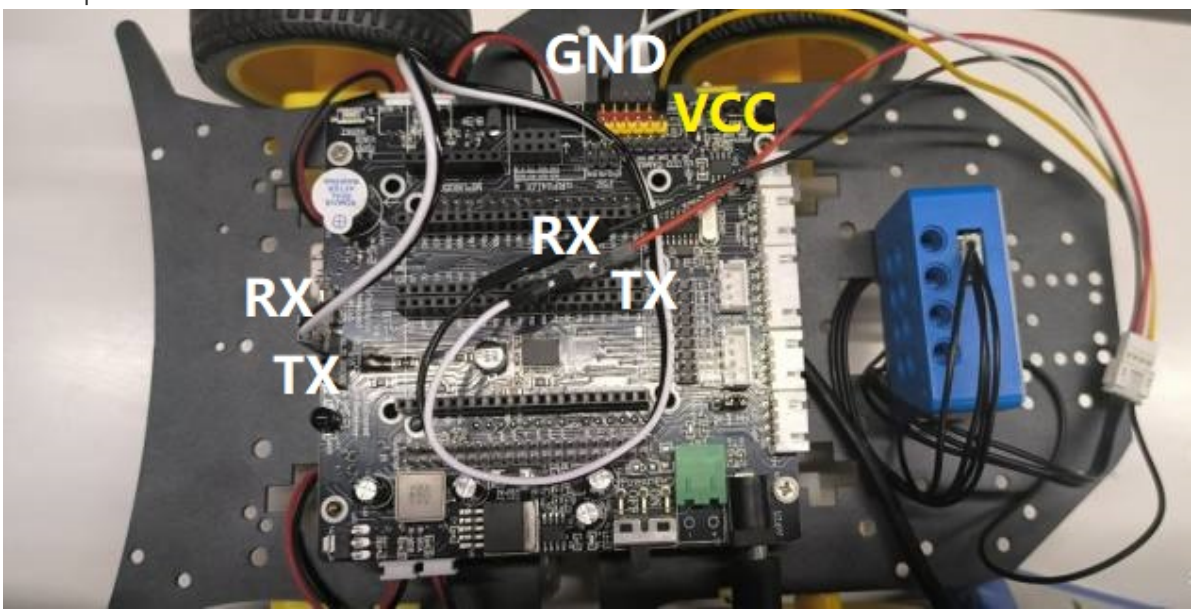
1. One 4wd-uno plate trolley
2. Several male-to-male Dupont lines
3. esp32-wifi camera
4. The serial port cable that comes with the camera

2. Experimental wiring

Fix the camera behind the car, connect it to the Bluetooth interface of the 4wd car, and arrange the interface cable

Camera	4wd car
RX	RX
TX	TX
VCC	VCC
GND	GND

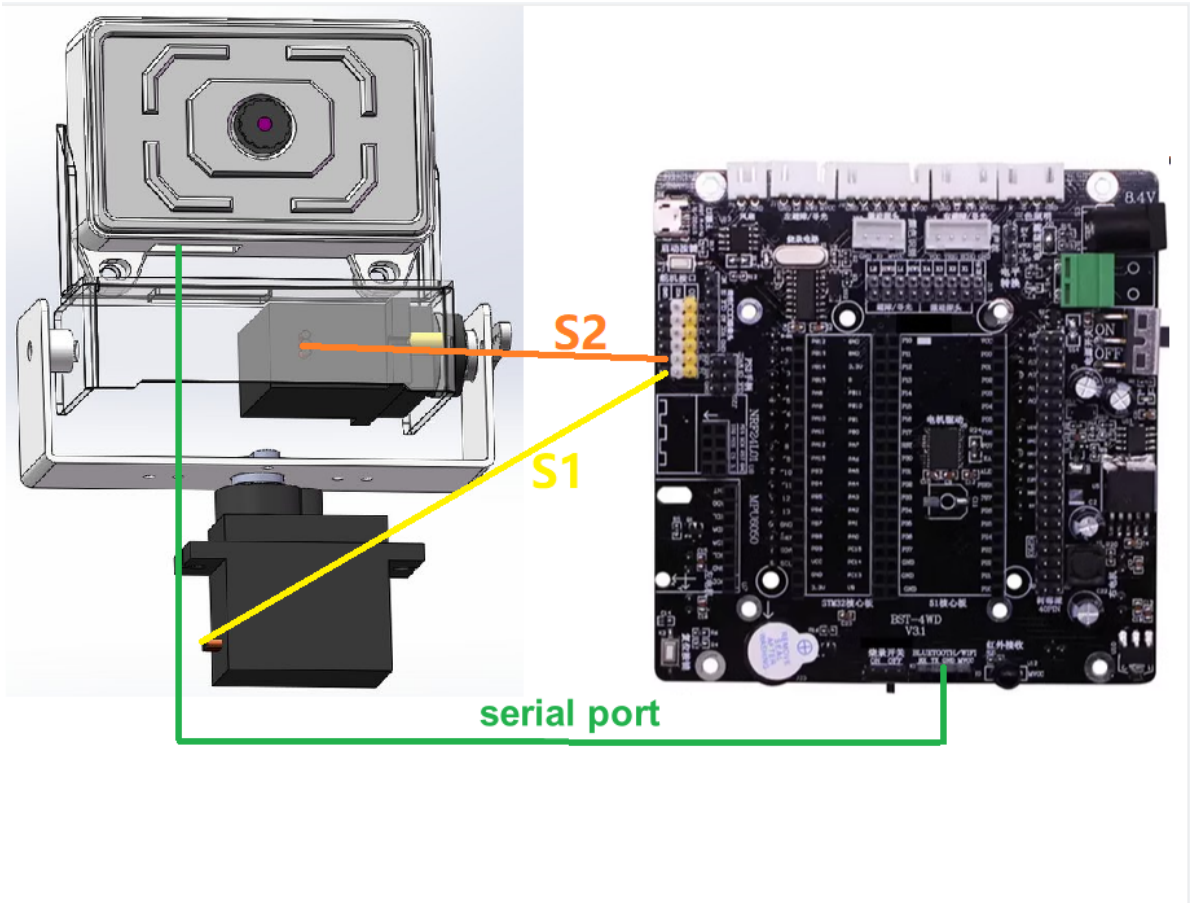
as the picture shows



Wiring of servo gimbal

- Connect the servo of the **up and down direction** of the servo gimbal to the S1 interface of the servo interface on the car board

- Connect the left and right servos of the servo gimbal to the S2 interface of the servo interface on the car board



3. Experimental steps and experimental results

1. Burn the program into the car through the Arduino IDE software. For how to burn, see the download program section of the 4wd car. This experiment will not explain it again.
2. After confirming that the wiring is correct, turn on the car battery switch, install the **ESP32Cam** software on your phone, open it, and log in directly.
3. Connect the mobile phone to the camera's spontaneous wifi. The wifi name of this routine is **ESP32_WIFI_TEST**, and you can connect directly without a password.
   Note: If you have changed the wifi name and password of the program, find and connect by yourself
4. After the connection is successful, keep the connection and do not disconnect. Enter the mobile app settings page and set the IP address to **192.168.4.1**

5. Keep exiting the settings, and then click on the main console page to successfully see the camera image and control the movement of the car and the rotation of the servo and gimbal.
   Horizontal screen

4. Main source code analysis

```
#define AP_WIFI_SSID "ESP32_WIFI_TEST"
#define AP_WIFI_PD ""
```

The above constants are defined in the esp32_wifi.c source code of this project

- AP_WIFI_SSID: The wifi name of the wifi camera's spontaneous hotspot, change it according to your own situation

- AP_WIFI_PD: The wifi password of the wifi camera's spontaneous hotspot, change it according to your own situation

If you want to change the wifi mode, this tutorial defaults to dual mode coexistence, that is, STA+AP mode
Select the mode under the file esp32_wifi.h

```
#define MODE_AP 0
#define MODE_STA 0
#define MODE_AP_STA 1
```

0: represents canceling this mode 1: represents selecting this mode
You can only choose one mode, not at the same time, otherwise the IP address will not be queried