TSCINBUNY

ESP32 CAM McKnum Wheel ROBOT V1.0

V2.02.401.09

Introduction to the tutorial

This tutorial includes the file content shown in the figure below to help you learn more about the car kit and programming knowledge:

"1_Get_start": This folder stores the robot assembly guide and necessary software environment files, etc. In order to complete the assembly accurately and quickly, please be sure to review it in detail and assemble it according to the manual. At the same time, the premise of realizing the program function is to create the software environment correctly, please check the PDF files under this folder first .

"2_Arduino_Code": This folder is used to store Arduino code files, and each code file is uploaded and used independently;

"3_References": This folder stores some reference materials;

After completing the assembly of the car and creating the programming environment, follow this tutorial to complete the programming of the smart car program and realize different functions step by step!

content

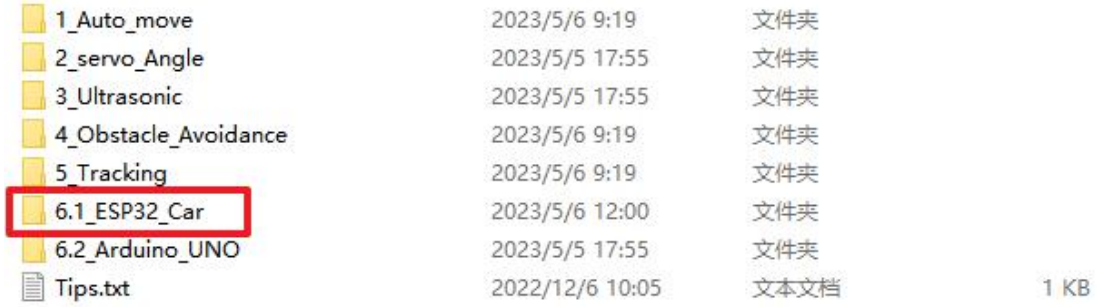
1. ESP32 CAM

1.1 Description

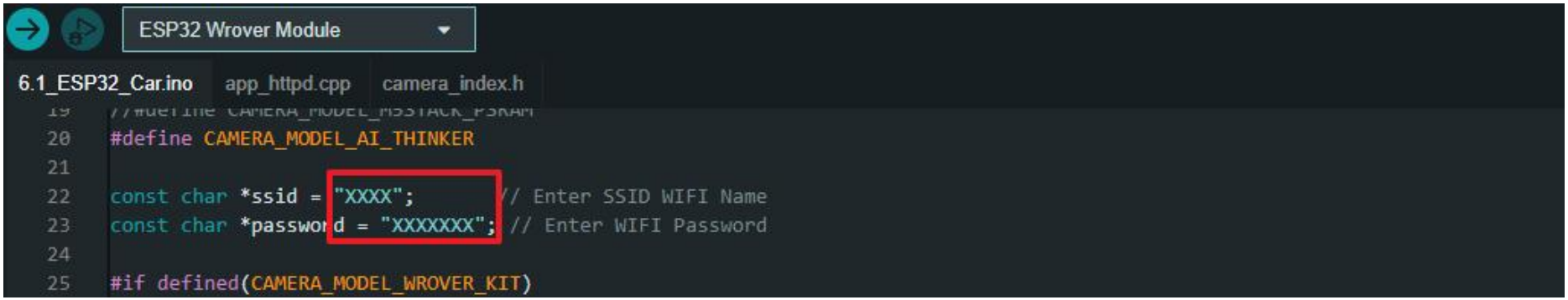
The content of this section mainly understands the use of ESP32 CAM, learns to upload codes and realizes that after ESP32 CAM is connected to WiFi, the shooting screen will be displayed on the browser in real time.

1.2 Upload code

Open the code file (path: 2_Arduino_Code\6.1_ESP32_Car\6.1_ESP32_Car.ino)



network credential account and password variables in the code to your own WiFi name and password !

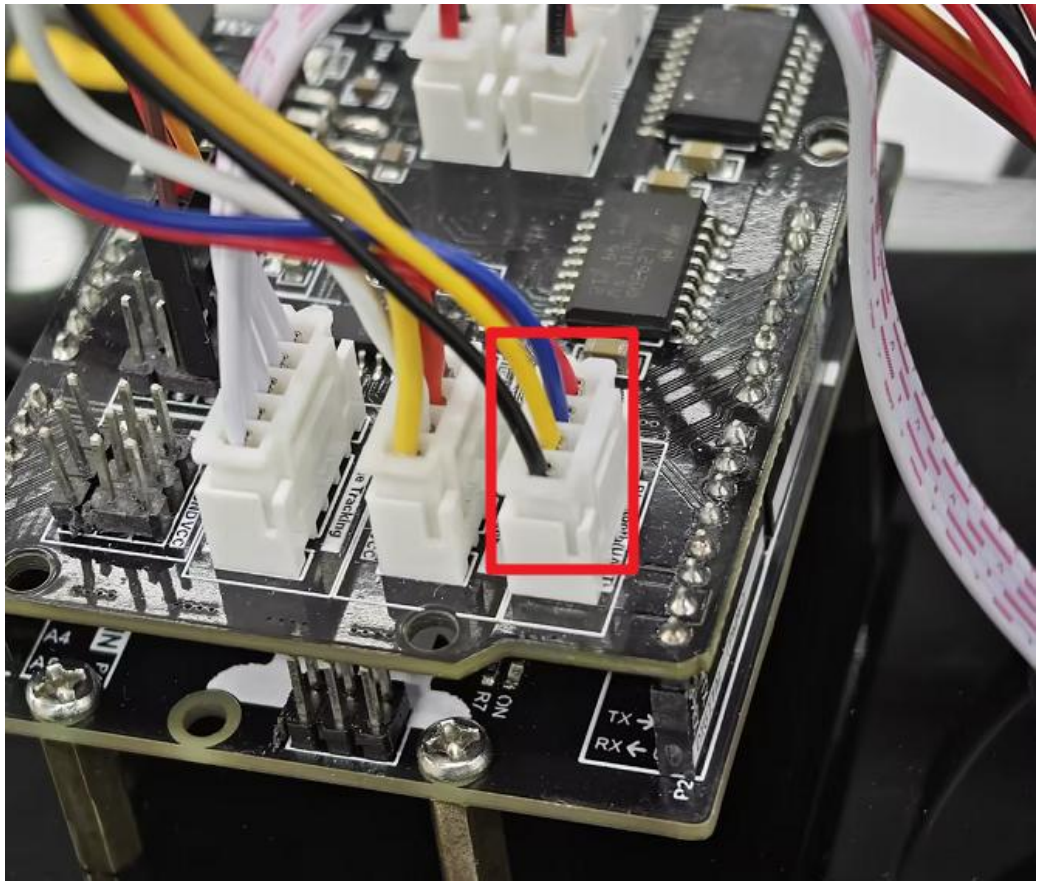


ssid = " Your wifi name " ;

password = " WIFI Password "

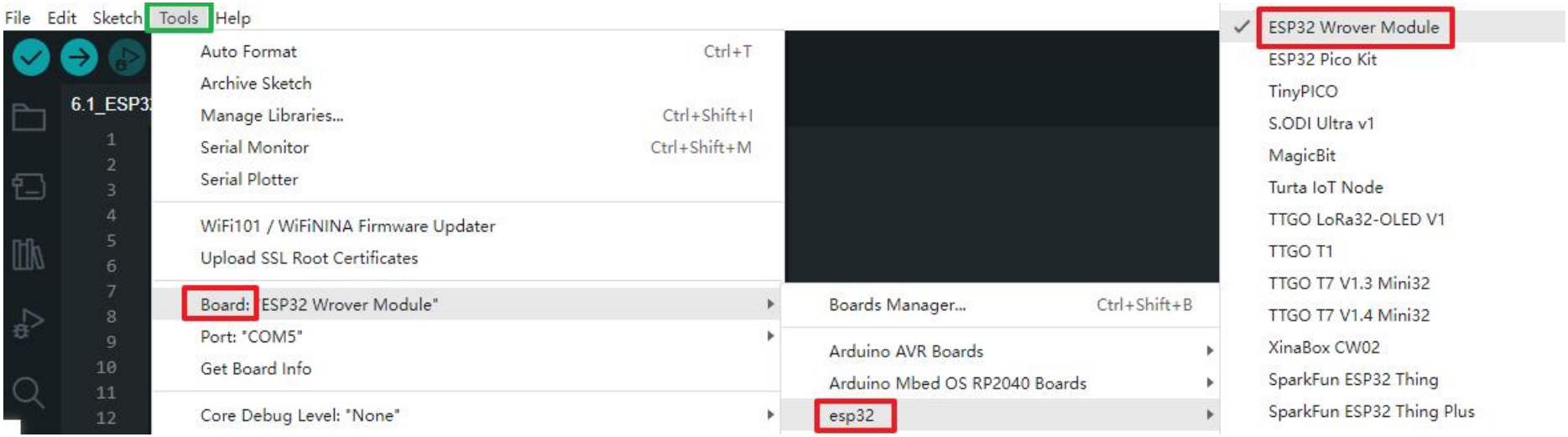
At the same time, you should check that the WiFi you want to connect to is 2.4G instead of 5G frequency band, otherwise the function cannot be realized!

unplug the VCC/GND/RX/TX four connections and hold the BOOT button before uploading the program.

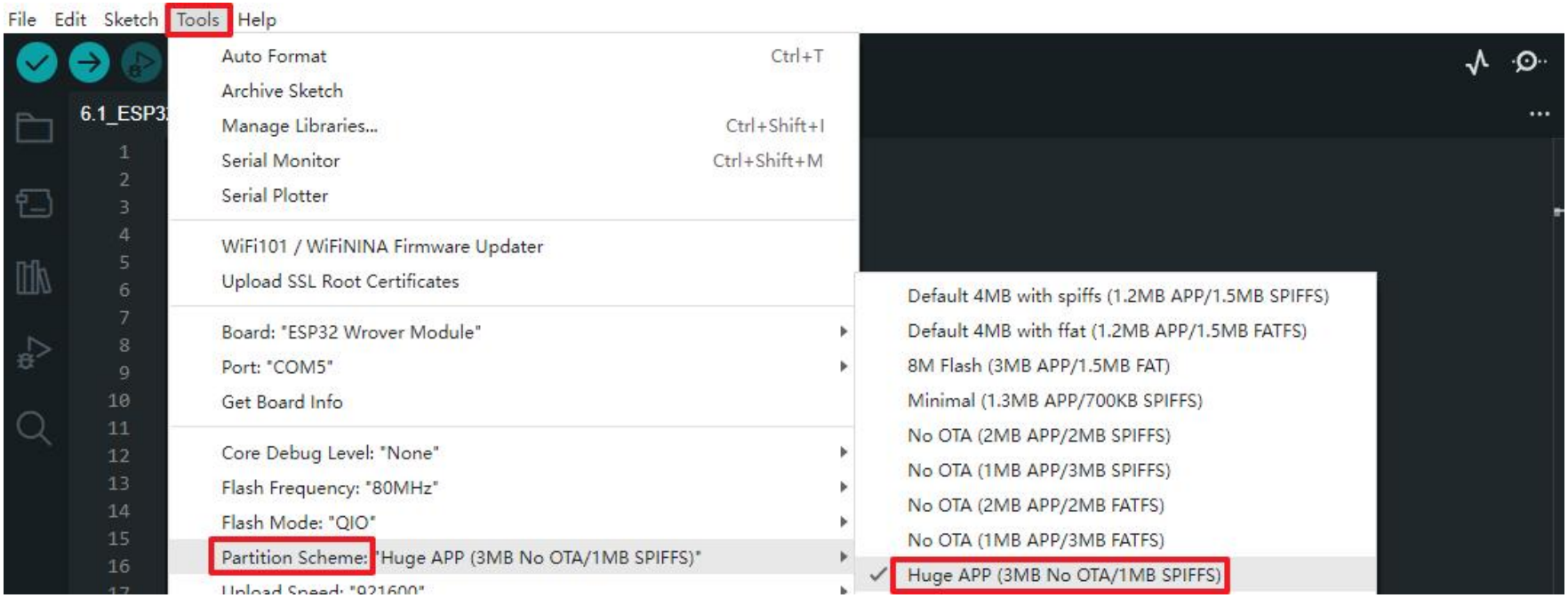


Connect the ESP32 CAM board to the computer with a USB cable

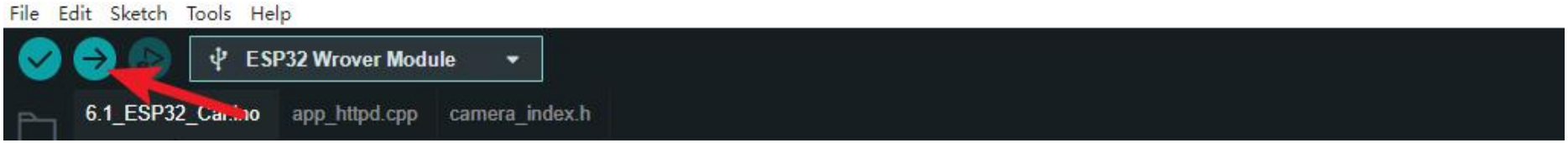
Select the board type as UNO and the serial port number as COM5



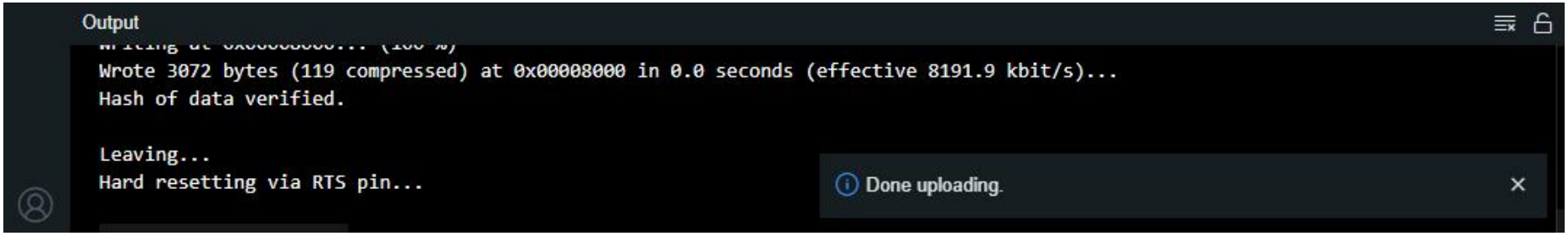
Note: The board type here is ESP32 Wrover and the serial port is COM5 . Actually everyone displays the serial port differently, although COM 5 is selected here , it could be COM3 or COM4 on your computer.



After clicking the "Upload" button, the program starts to upload.

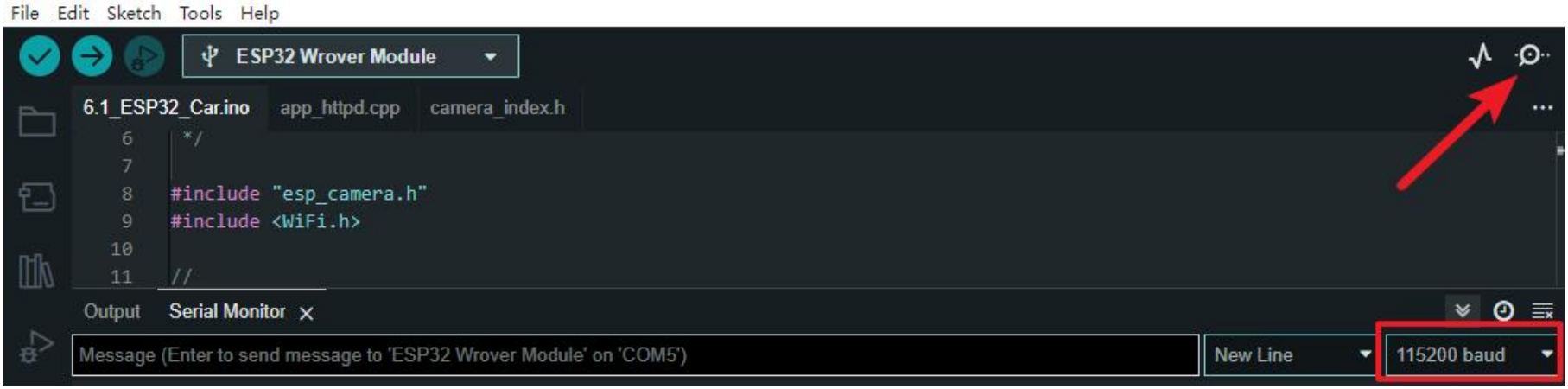


After the upload is successful, it prompts "Done uploading".

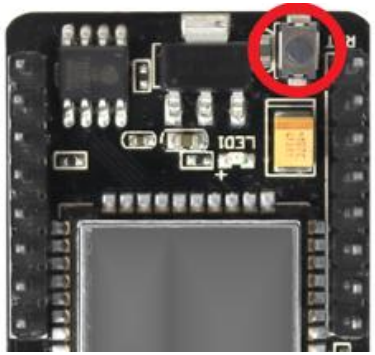


1.3 View IP address

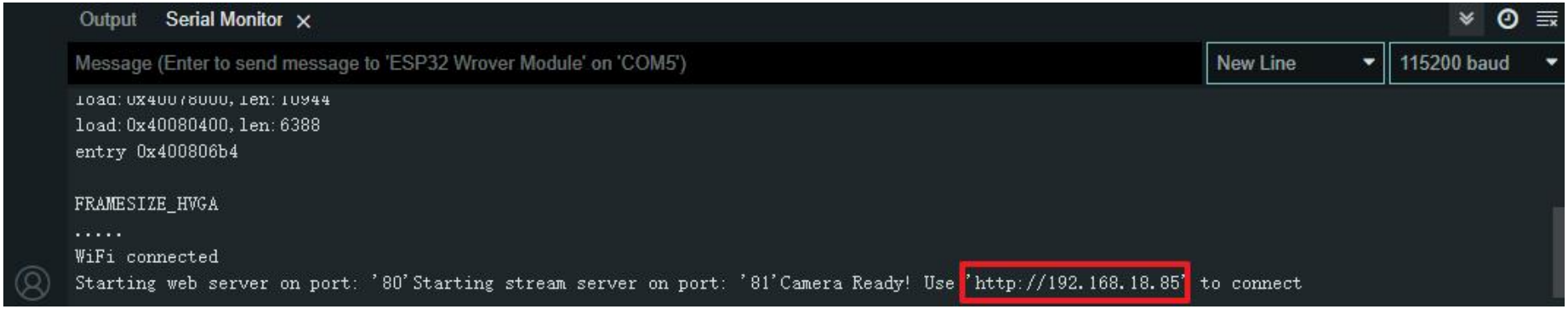
Open the serial monitor and set the baud rate to 115200 in the lower right corner



Program reload by pressing reset key on ESP32 CAM



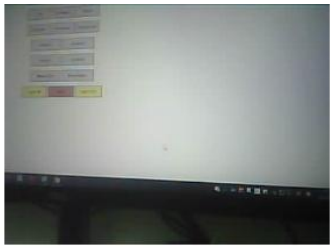
When the program reloads and successfully connects to WiFi, the IP address will be displayed: http://xxx.xxx.xxx.xxx, please write it down

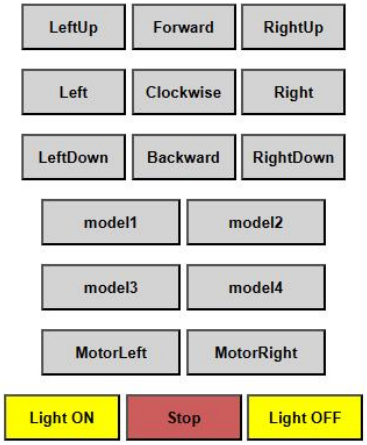


1.4 Check the camera screen

with a device connected to the WiFi of the same LAN, enter the IP address into the address bar and run Jump.

You'll see the camera feed, but you won't be able to control the car's movement yet, which will be covered later.





When you can't see the screen:

1. Please check whether the WiFi name and password have been modified correctly;

2. Whether the network is 2.4G, and the signal is good;

3. Reset ESP32 CAM to ensure stable power supply;

2. wifi control

2.1 Description

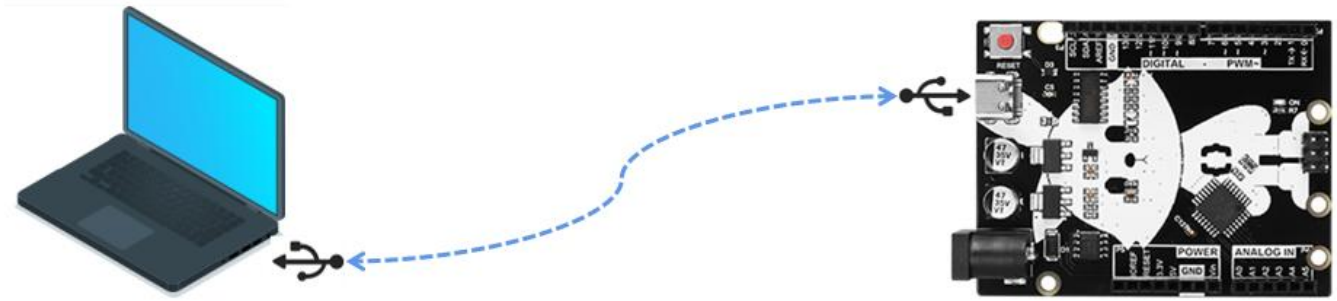
This section mainly understands the use of TSCINBUNY control board and how to realize the WiFi control function.

2.2 Upload code

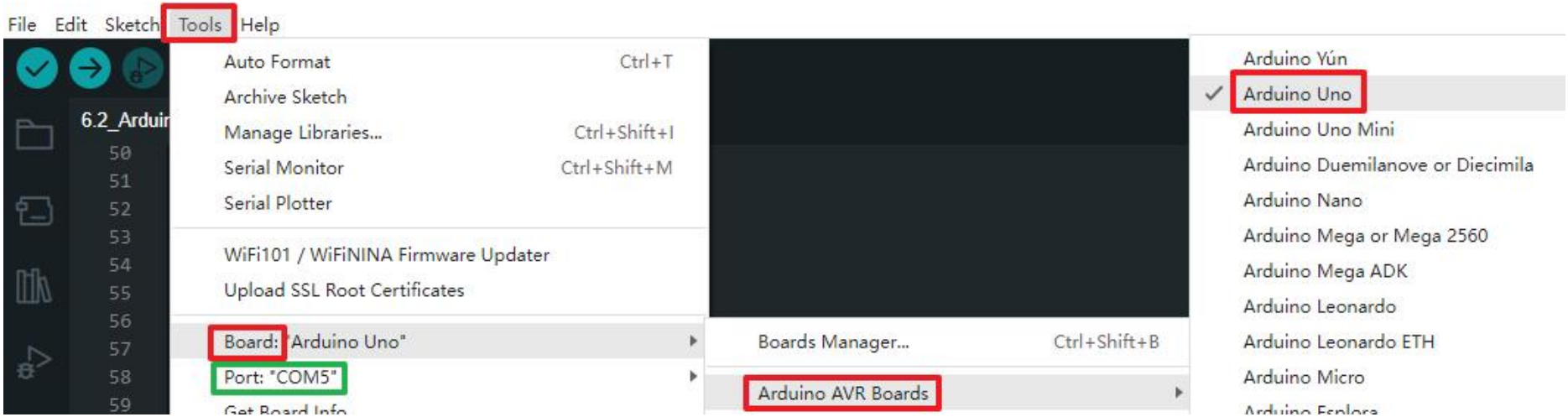
Open the code file (path: 2_Arduino_Code\6.2_Arduino_UNO\6.2_Arduino_UNO.ino)

unplug the four wires VCC/GND/RX/TX before uploading the program .

Connect the Arduino board to the computer with a USB cable .



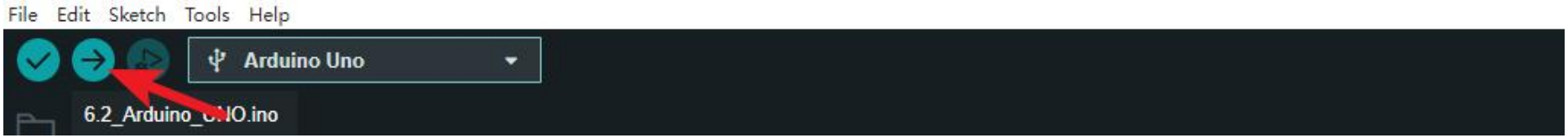
Select Uno for the board type and COM5 for the serial port



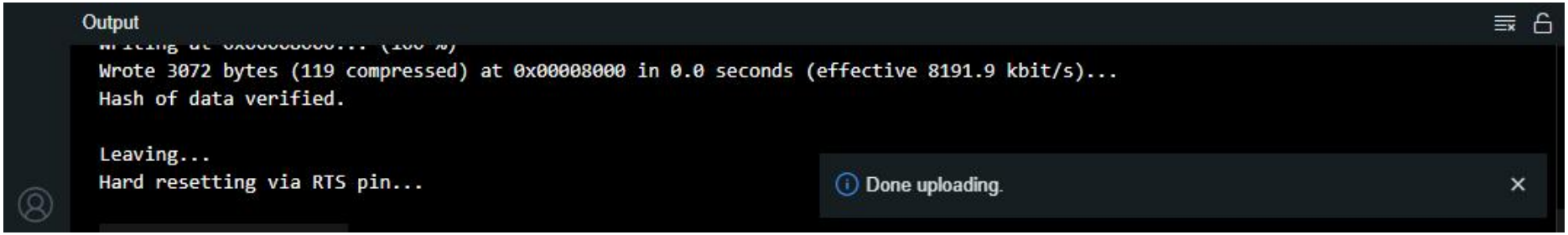
Note: In fact , everyone 's serial port display will be different, although COM 5 is selected here , it may be COM3 or

COM4 on your computer.

After clicking the "Upload" button, the program starts to upload.

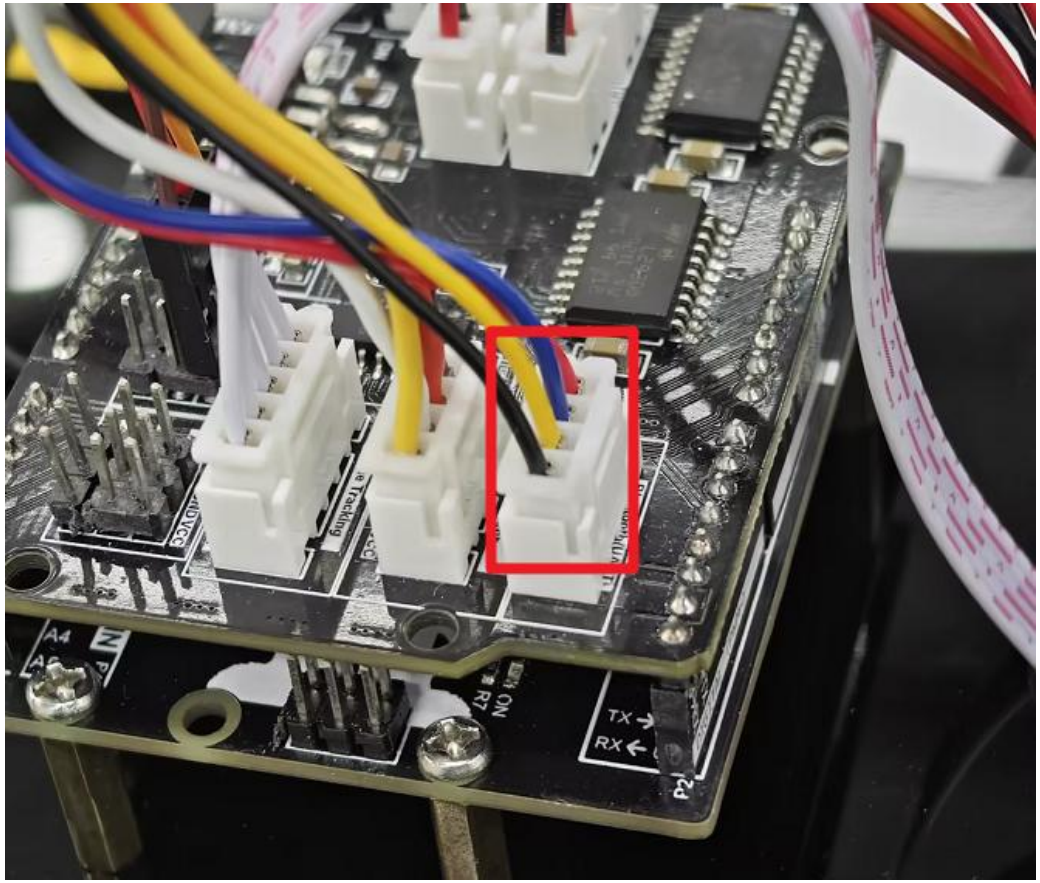


After the upload is successful, it prompts "Done uploading".

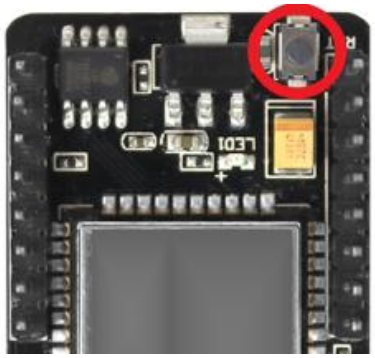


2.3 Test function

Re-plug the four VCC/GND/RX/TX cables



Install the 18650 battery (sufficient power), turn on the power switch, and press the ESP32 CAM reset button.



Open the browser with a device connected to the WiFi of the same LAN, enter the IP address (see the previous section for how to obtain it) and run the jump.

If the WiFi connection is successful, you should see the camera screen and the control button screen.

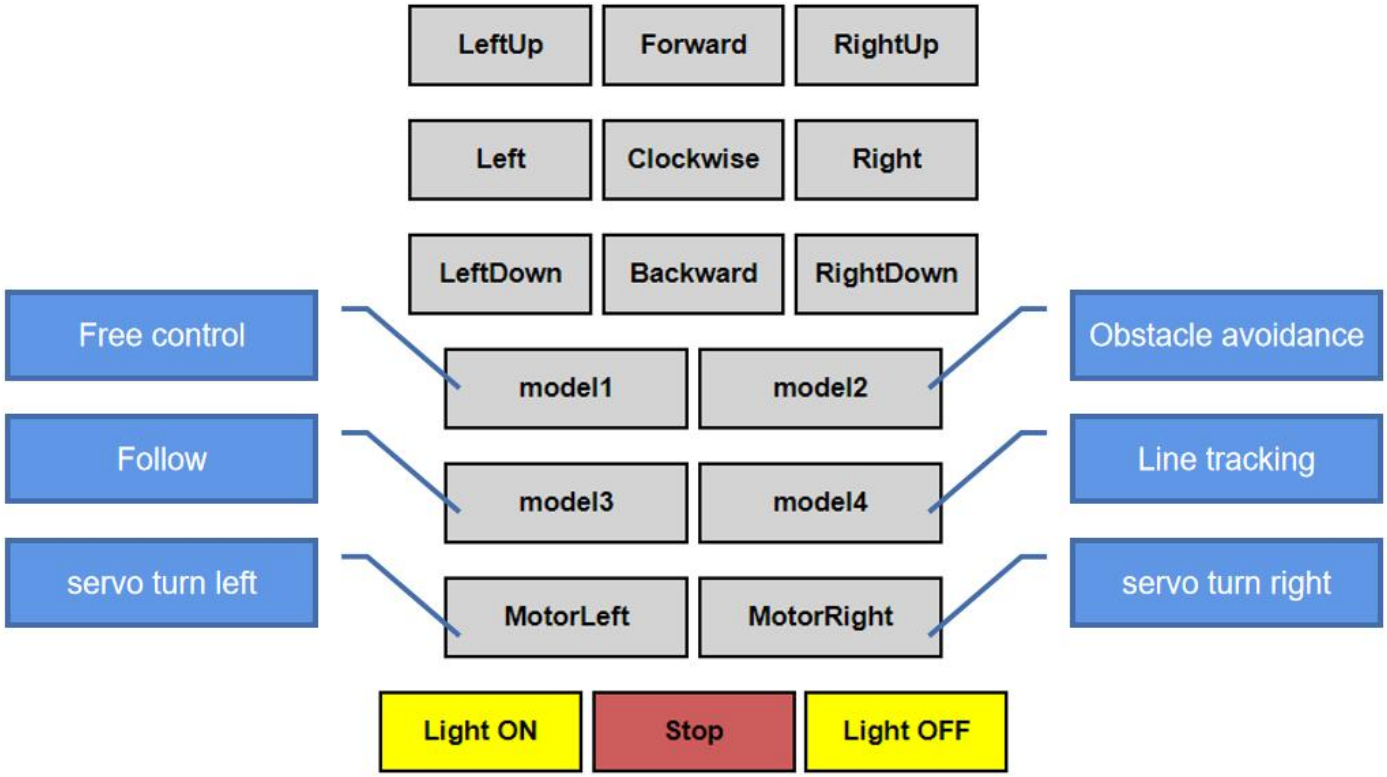
If the picture is delayed:

1. Check whether the network is smooth and stable without interference;

2. Whether the battery power is sufficient;

2.4 Introduction to Control Interface

The 9 buttons on the top correspond to the upper left, forward, upper right, leftward, clockwise rotation, rightward, leftward, backward and rightward movement of the car.



In addition to remote control of the car in the browser, you can also use the APP we provide to remote control. The premise is that the WiFi hotspot signal should be good and stable. Please refer to the folder "4_APP" for details.

See the Reference Documentation for more details！