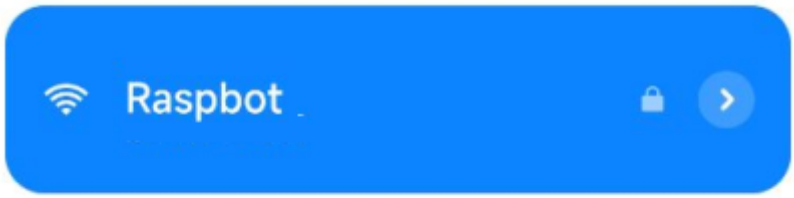
Get started quickly

Preparation before connection

1. After checking the servo connection cable, battery power cable, camera ribbon cable, and raspberry pie ribbon cable for accurate connection and installation of the SD card with factory image, turn on the power switch on the bottom plate of the car.
2. This tutorial**Must be Raspberry Pi 5 (PI5) as the main controller**The car starts for about 1 minute, and after the system starts, it will sound a horn. The LED2 blue light on the bottom plate is constantly on, indicating that the car has started normally and the hot spot name of the successfully started car is “Raspbot”。
   If the LED1 red light flashes, it indicates that the camera is calling abnormally. Please check the connection of the camera cable.
   Connect to the hotspot of the car through a mobile phone wifi：Raspbot，PassWord:12345678

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Special reminder:
WIFI name：Raspbot
WIFI Password:12345678
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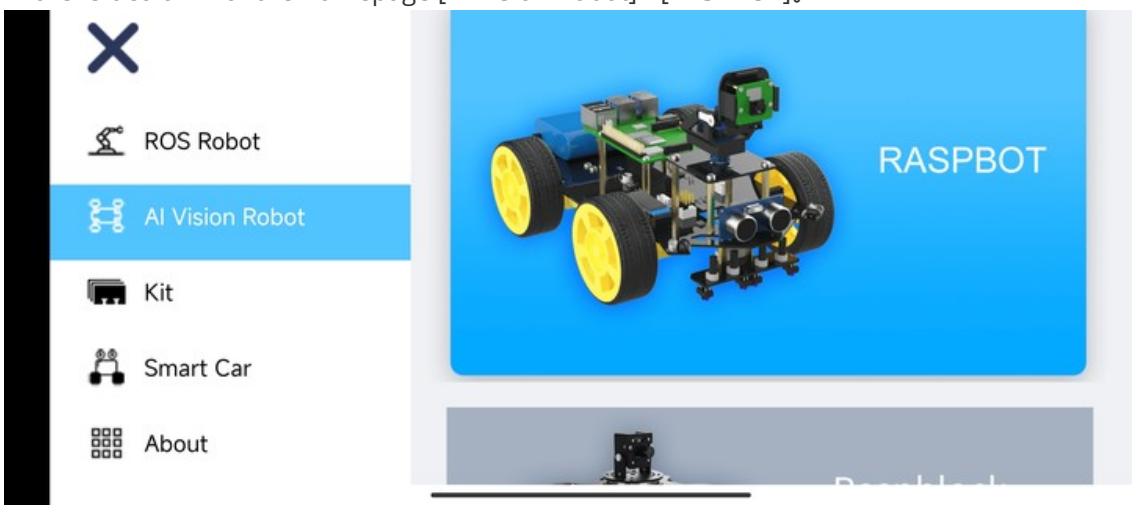
2. First time opening [YahboomRobot] APP，Need to select the corresponding product，Select in the left column of the homepage [AI Vision Robot]->[RASPBOT]。

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The steps 3 to 6 are because the APP needs to enter this process only when it is the first time installing and using this product. If it is not the first time using it, you can start from step 7 directly
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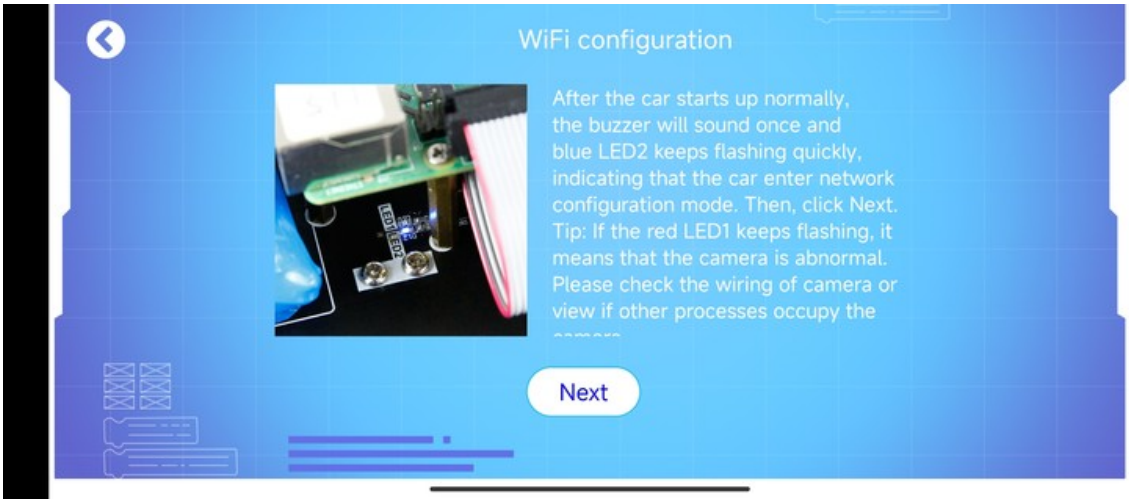
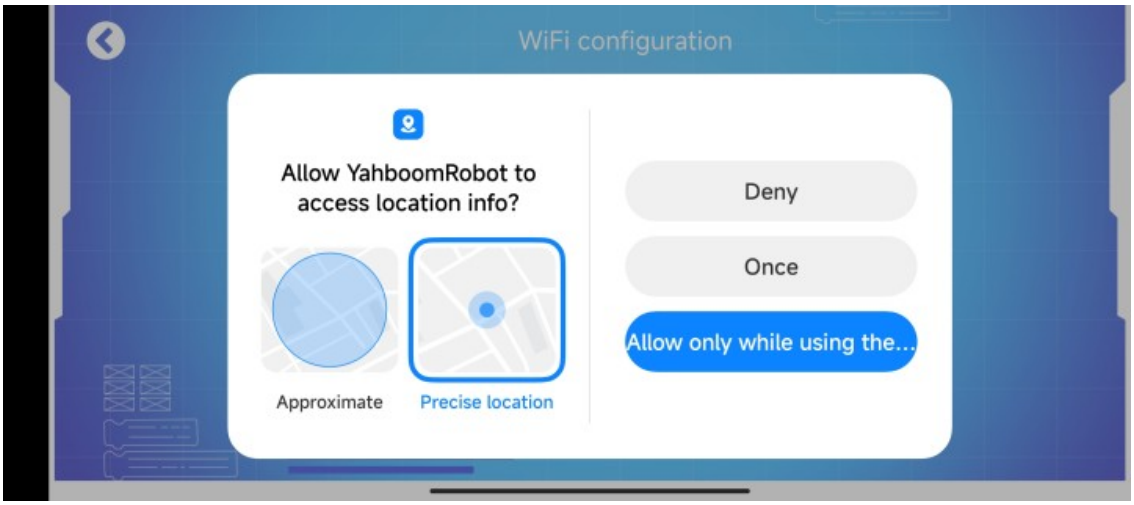
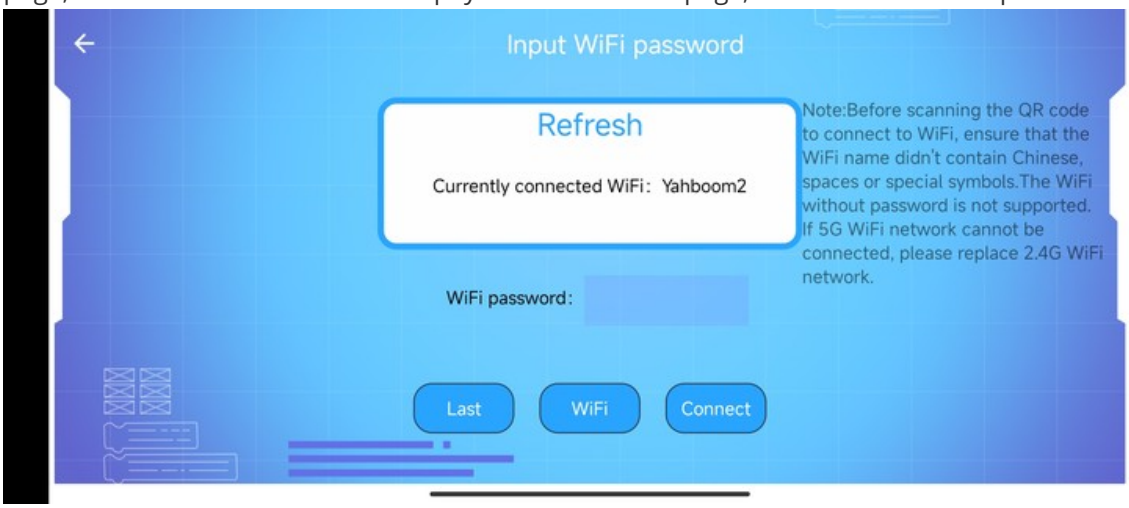
3. After clicking on the page, this screen will appear,**If it is PI5 main control** The lights of LED1 and 2 don't need to pay attention to what the app says, **Simply click on the next step**



4. Phone needs to be turned on [position information]service,And click on it**Allow apps to use location information**.

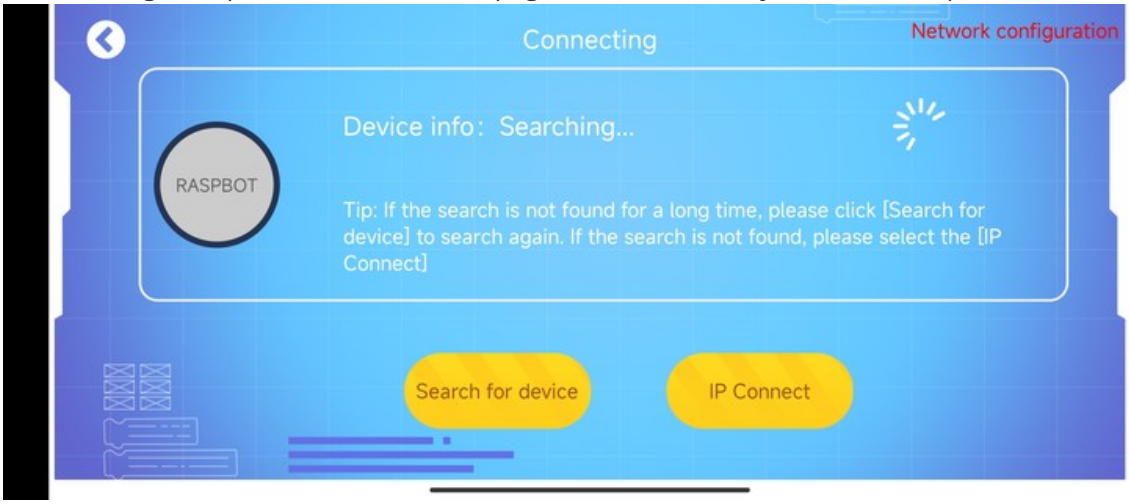


5. Then this page appears,Click directly **Distribution Network Button** To proceed to the next page,**If it is PI5 main control**Don't pay attention to this page,No further action required

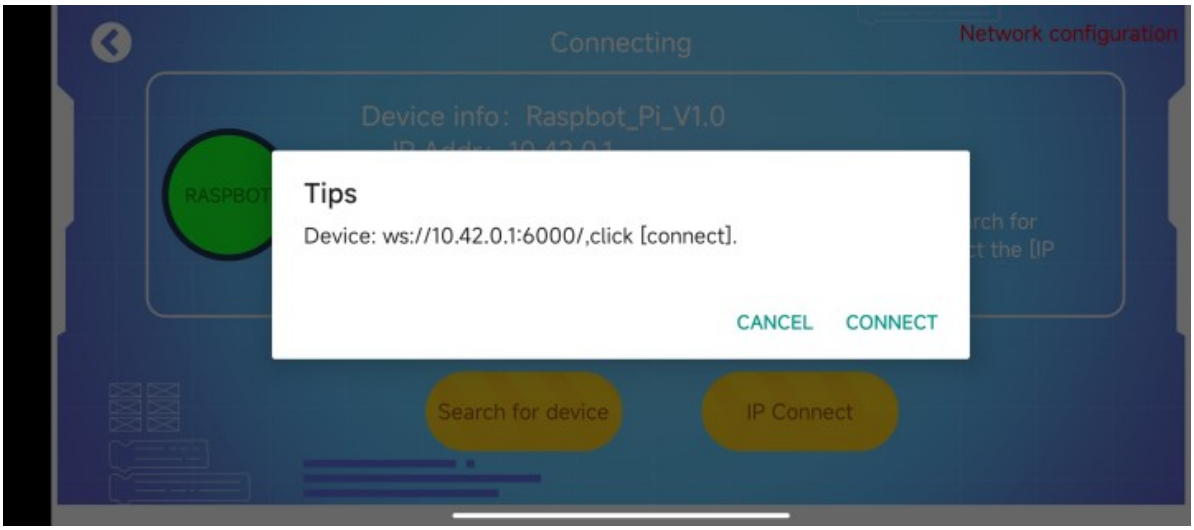


6. Entered the interface for scanning the distribution network,**Just click OK directly**,**If it is PI5 main control** Don't pay attention to this page.

7. After waiting for a period of time on this page,Will automatically search for raspbot



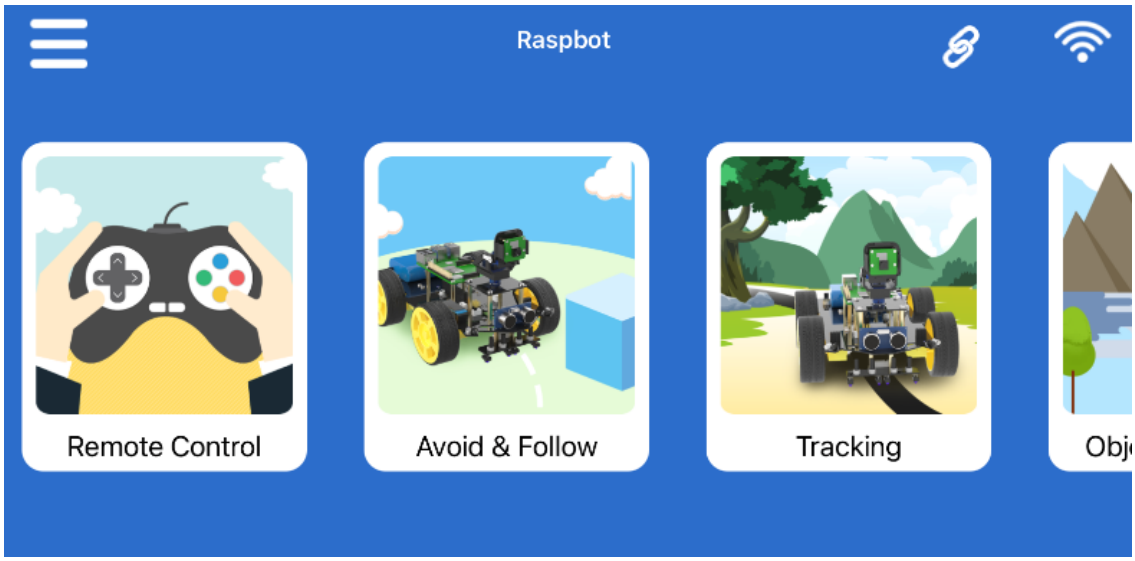
8. If the search is successful, a connected page will appear,**Click to connect**;If the automatic search fails, click the search device button a few more times.



9. If you haven't found the device for a long time, please check if your phone is connected to the car's WiFi.
   (The following steps generally do not require operation)After connecting to the car's WiFi, you can also try using an IP connection. “IP”: Enter the IP address of the car(10.42.0.1)This IP is the default IP address for Raspberry Pi hotspot, “Port”: 6000,

“Video”:6001。

10. After successful connection, enter the function selection interface



11. When switching to a local area network WiFi connection, you need to log in to Raspberry Pi and configure the WiFi you want to connect to and how to connect to it,Please refer to the tutorial **raspbot-PI5 Connection WiFi Method**document.

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Attention: It is not possible to achieve the remote gesture recognition function
of the APP by using hotspot mode and connecting to wifi that cannot access the
internet. This function requires a wifi that can access the internet.
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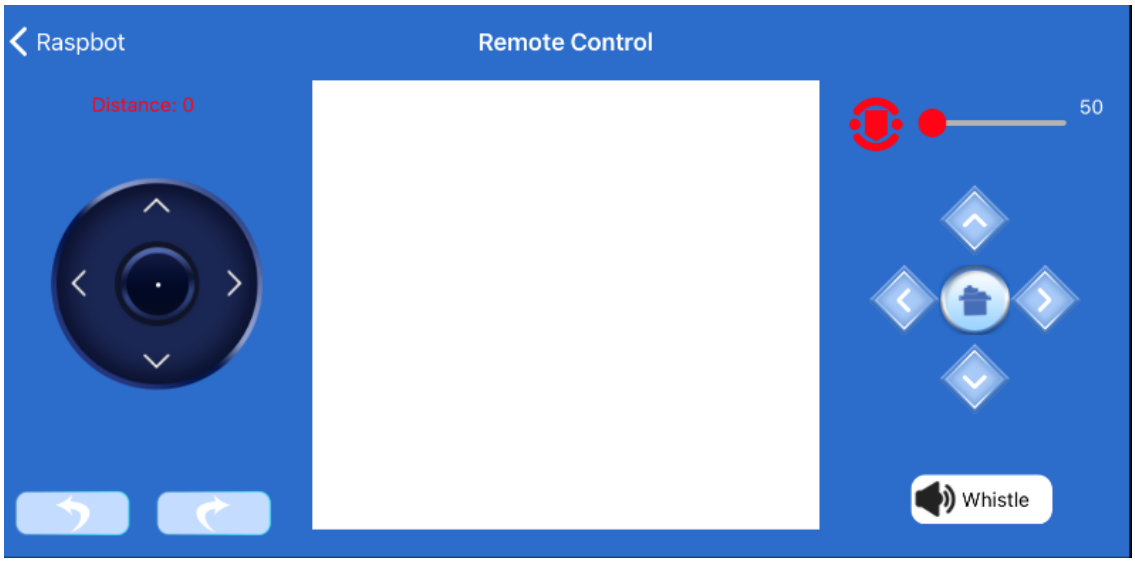
APP function

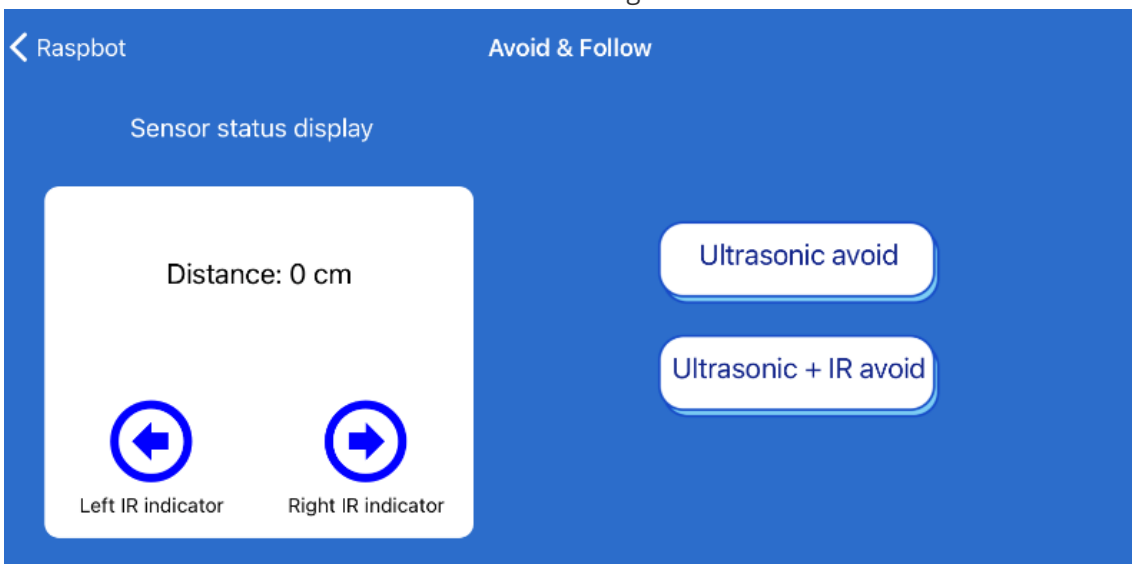
1. Remote Control
   The rocker on the left can control the movement of robot car. The button on the right can control the camera platform.
   The slider in the upper right corner can control the movement speed of [Remote Control]

and [Identification & Control].



2. Avoid & Following

- Sensor display: Display ultrasonic distance and status of left and right infrared sensors.
  Tip: The infrared sensor is only opened in the [Avoid &Follow] interface, it is usually closed.
- Ultrasonic avoid: Raspbot completes avoid obstacles function by ultrasonic module to. Click the button again to close this function.
- Ultrasonic + IR avoid: Raspbot completes avoid obstacles function by ultrasonic module and infrared sensor at the same time. Click the button again to close this function.

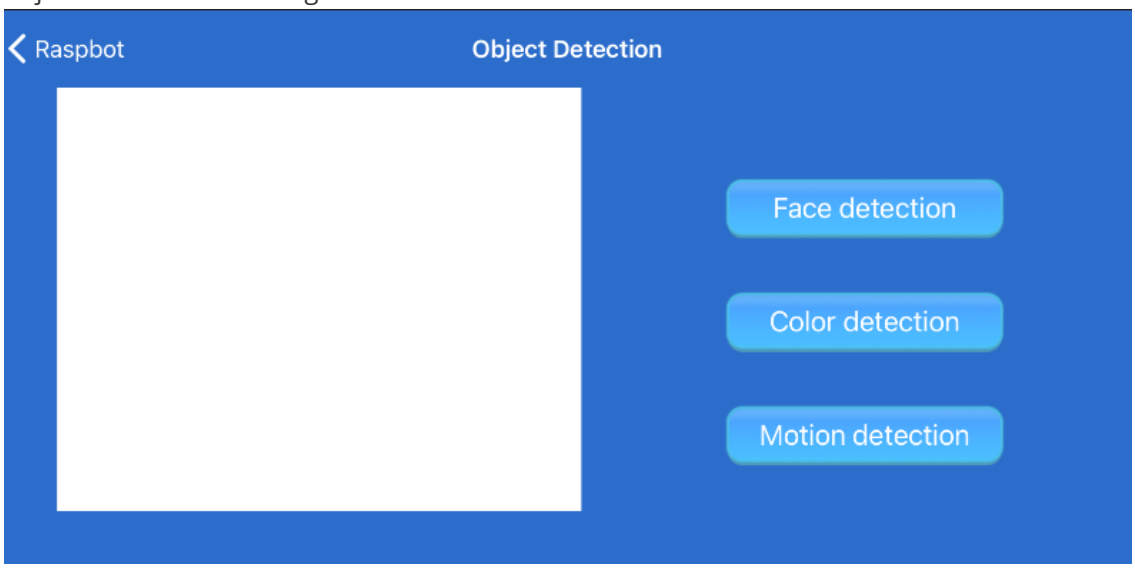


3. Tracking mode

- Sensor display: Display the status of the S1-S4 indicator light of the tracking module. When black is detected, indicator light is on, otherwise, indicator light is off.
- Tracking mode: Raspbot completes the tracking function on map with the black line on the white background. Click the button again to close this function.
- Restricting mode: Limit the car to move within the range of the black line on the white background. Click the button again to close this function.

4. Target detection

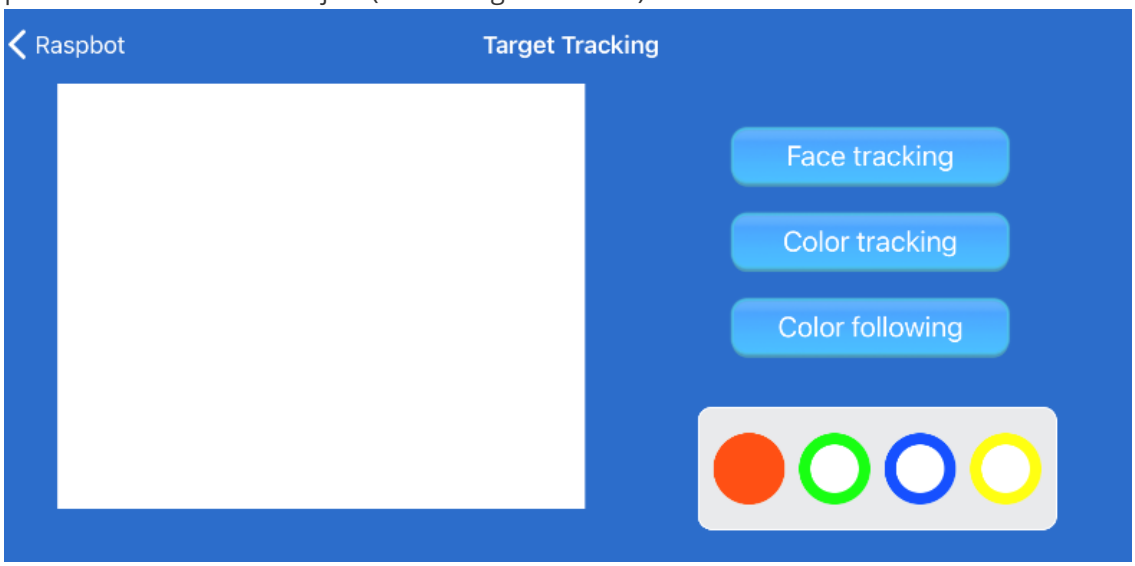
- Face detection: Click [Face detection] button to start face recognition function. Click the button again to close this function.
- Color detection: Click [Color detection] button to start color detection function. It supports four colors of red, green, blue, and yellow. Click the button again to close the function.
- Motion detection: Click the [Motion Detection] button, a blue frame will appear in the middle of the video screen. When the object in this frame moves, the blue frame will also move with object. Click the button again to close the function.



5. Target tracking

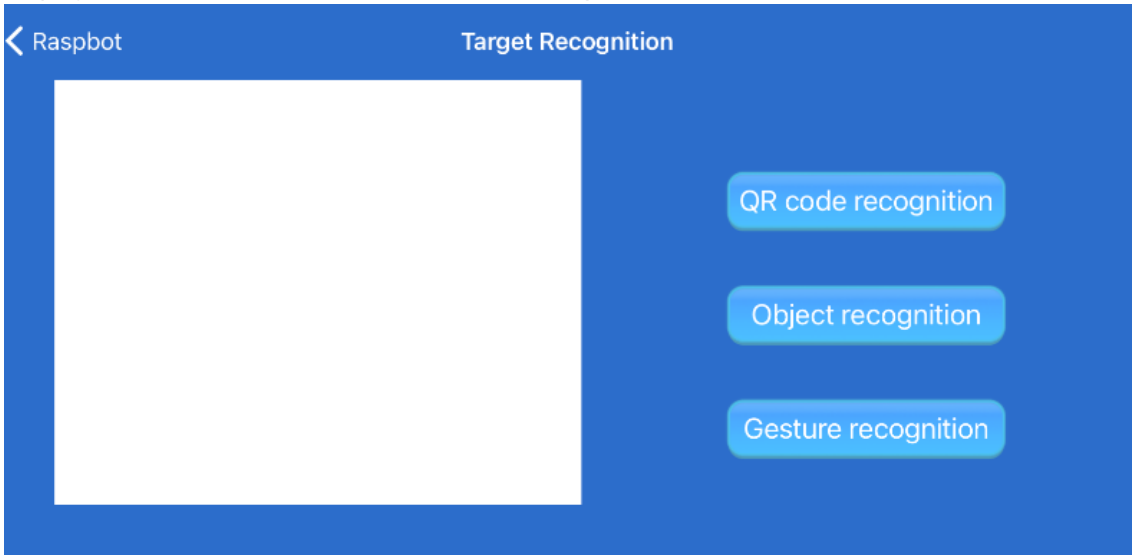
- Face tracking: Click the [Face Tracking] button, point the face at the camera and move face slowly, the camera platform will follow the face. Click the button again to close the function.
- Color tracking: Choose the color button. Then, click the [Color tracking] button, point object (with recognized color) at the camera and move it slowly, the camera platform will follow object (with recognized color). Click the button again to close the function.
- Color follow: Place the car on the ground, click the color button to be followed, and click the [Color Follow] button. Point the object (with recognized color) at the camera and move it slowly. The car will slowly approach the object (with recognized color), and the camera

platform will follow the object (with recognized color).



6. Target recognition

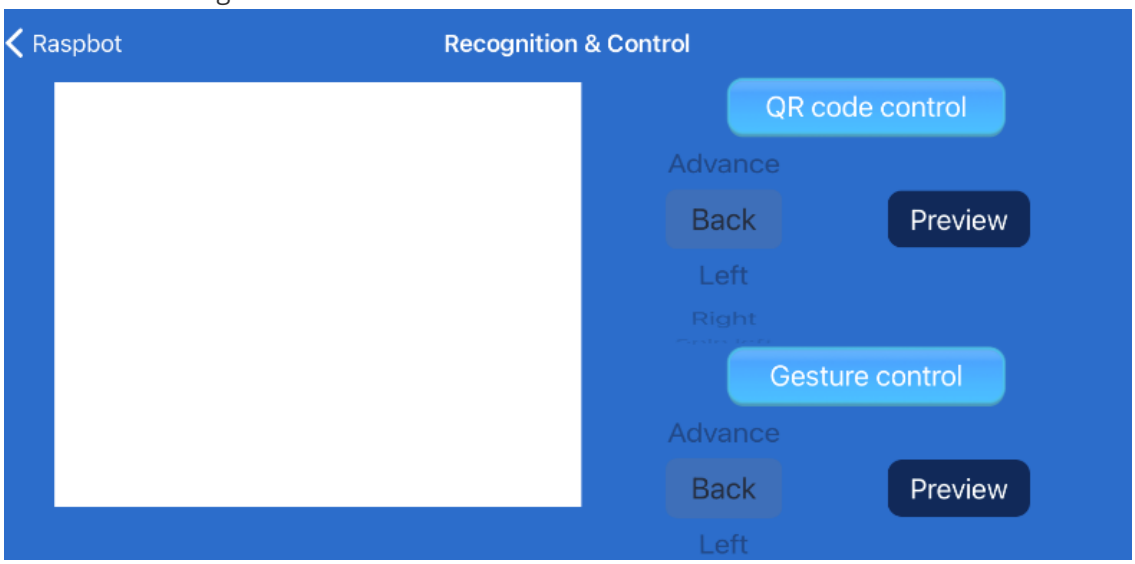
- QR Code Recognition: Click the [QR Code Recognition] button, point the QR code to be recognized at the camera. The QR code will be framed in the video screen and the corresponding characters will be displayed. Click the button again to close this function.
- Object Recognition: Click the [Object Recognition] button, point the object to be recognized at the camera. The object will be selected in the video screen and the corresponding English name characters will be displayed. Click the button again to close this function.
- Gesture recognition: Before using this function, you need to make sure that the WIFI connected to your car can access the Internet. Click the [Gesture Recognition] button, point your hand at the camera and make gestures. The name of the recognized gesture will be displayed in the video screen. Click the button again to close this function.



7. Identify & Control

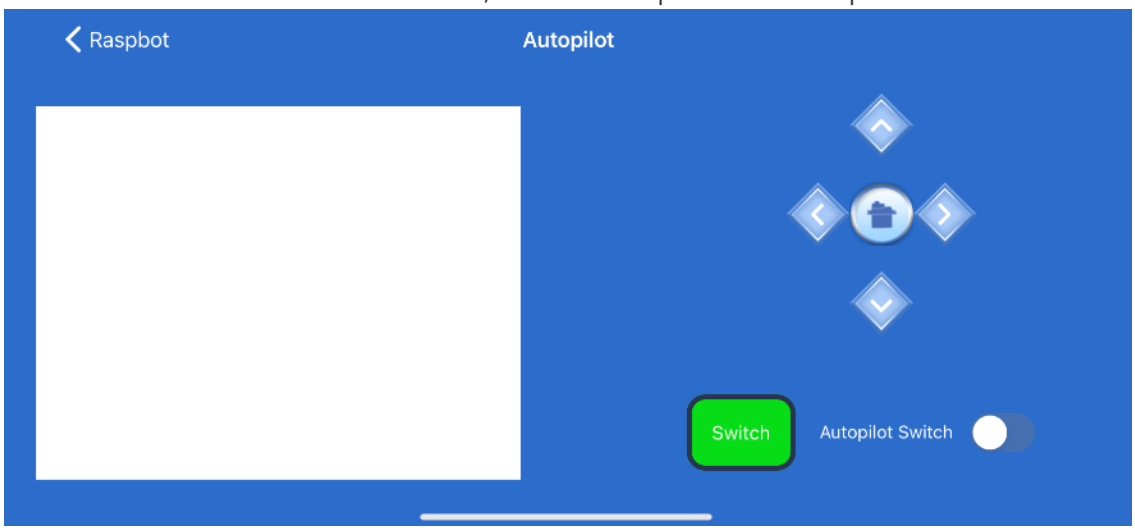
- QR code control: Click the [QR code control] button, select the corresponding exercise through the exercise bar, and click the [Preview] button to generate the corresponding QR code. Point QR code at the camera, and the car will complete the corresponding action after recognition. Click the button again to close this function.
- Gesture control: Click the [Gesture control] button, select the corresponding exercise through the motion bar, and click the [Preview] button to view the corresponding gesture. Point gesture at the camera, the car will complete the corresponding action after recognition.

Click the button again to close this function.



8. Autopilot

- Click [Switch] to switch three modes screen: normally screen, perspective transformation screen, and normalized processing screen with processing lines.
  After entering the autopilot interface, the camera platform will move to the default position. We can adjust the position of the camera platform to ensure that the blue wire frame in the video is located in front of the car. Then, click the autopilot switch to open this function.



App remote control may malfunction

1. The screen of the APP can be viewed, but the car cannot be controlled because the control process has been terminated by the phone. Restart the APP and reconnect to the car.
2. The sensor data of the APP is not updated in real time because the process of receiving the sensor is suspended due to the phone's sleep, resulting in the termination of the data sending thread of the large program. At this time, the APP and the car need to be restarted.
3. The APP with gesture recognition function cannot be used. Please ensure that the connected WiFi is connected to the internet, and hotspot mode and WiFi without internet connection cannot use this function.