First Trial

1. Download and install APP

Android users scan the QR code by browser to download APP.

iOS users scan the QR code by browser or camera to download APP. Or search "YahboomRobot" in App Store to download APP.

2. Download and write image file

2.1 According to this link, http://www.yahboom.net/study/Raspbot, enter our official website and click [Download]--[Download image], you will get a .zip file.

2.2 Extract the .zip file by 7z software to get an .img file.

2.3 Prepare the card reader and SD card, write the .img file we provided to the TF card, wait patiently for the image to be written.

2.4 Correctly insert the TF card into the card slot of the Raspberry Pi board.

3. Start car and connect to the network

3.1 Check all wiring according to the wiring diagram. Then, open the power switch of the car and wait for 2 minutes. When you heard the buzzer whistle once and the blue light (LED2) on the bottom chassis keeps flashing quickly, indicating that the car has started normally and entered the network configuration mode. Note: If the red light (LED1) keeps flashing, which means that the camera is abnormal. Please check the wring of camera.
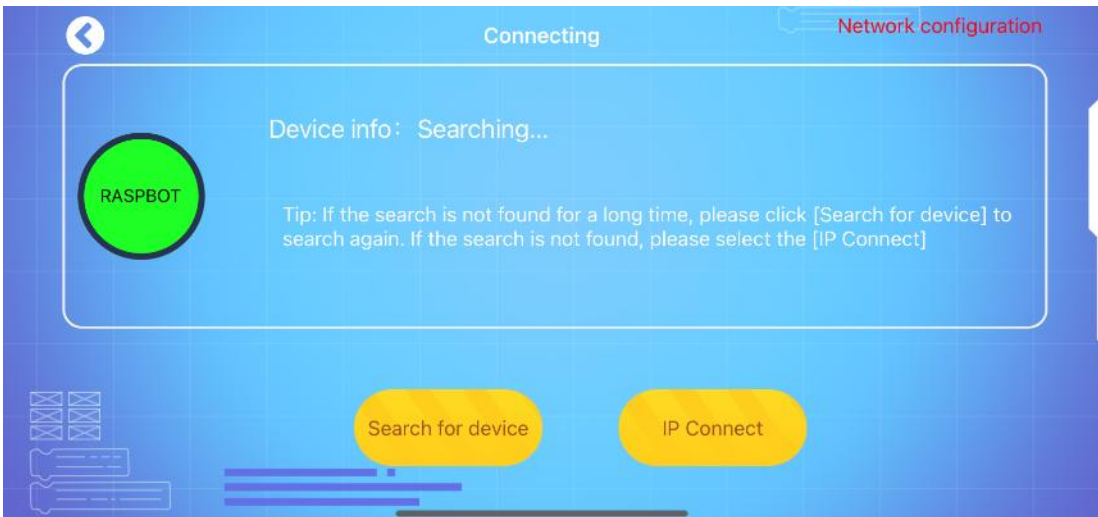
3.2 Open [YahboomRobot] APP and choose [Robot]—[RASPBOT].

3.3 If the phone prompts you to obtain location permission, please select "ALLOW"
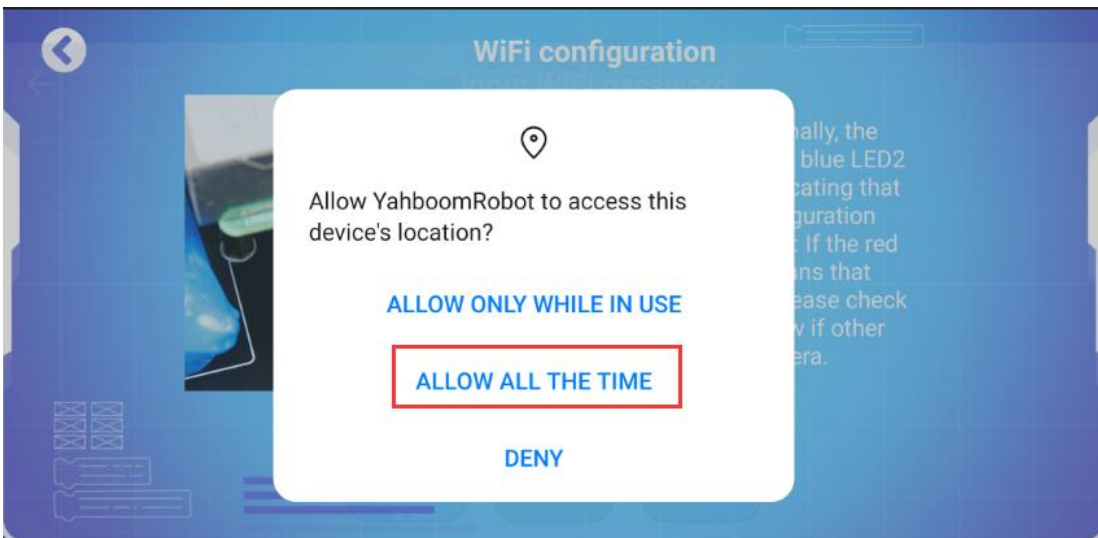
3.4 Click [Network configuration] in the upper right corner to enter the wireless configuration instructions.

3.5 If the current WiFi name is not displayed or displayed incorrectly, please click [Refresh].
If the WiFi is not currently connected, please click the [WiFi] button to enter WiFi connection interface on your phone.
Then, back to APP and input password of the WiFi connected to the mobile phone, click the [Connect] button to enter the next step.

3.6 At this time, the APP will automatically generate a QR code with WIFI information. Place this QR code about 20cm in front of the camera. When the buzzer buzzes twice, the QR code is recognized. The car will complete the WIFI connection within 30s, click [OK] button to enter the next step.

Exception description: If the buzzer whistle again after 30s, and the LED2 indicator keeps flashing quickly, it means that the WiFi connection has failed. The car will enter the step of identifying the QR code to configure the network again.
Please check whether the WIFI name and password are entered correctly or whether the current WIFI environment is normally.
After checking, place the new QR code in front of the camera again to configure network.
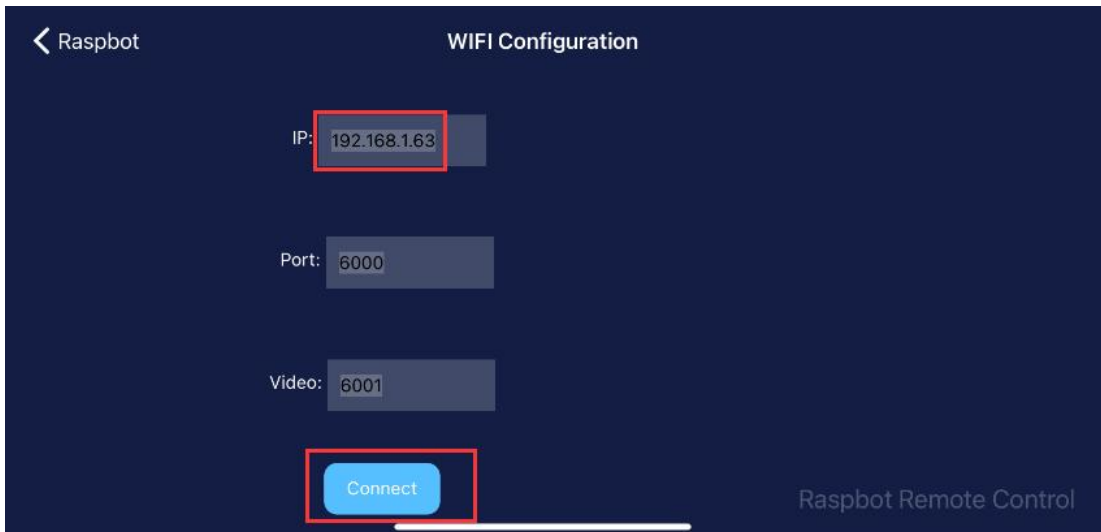

3.7 The phone will automatically search for the device, and a dialog box will pop up after a few seconds, click [Connect].
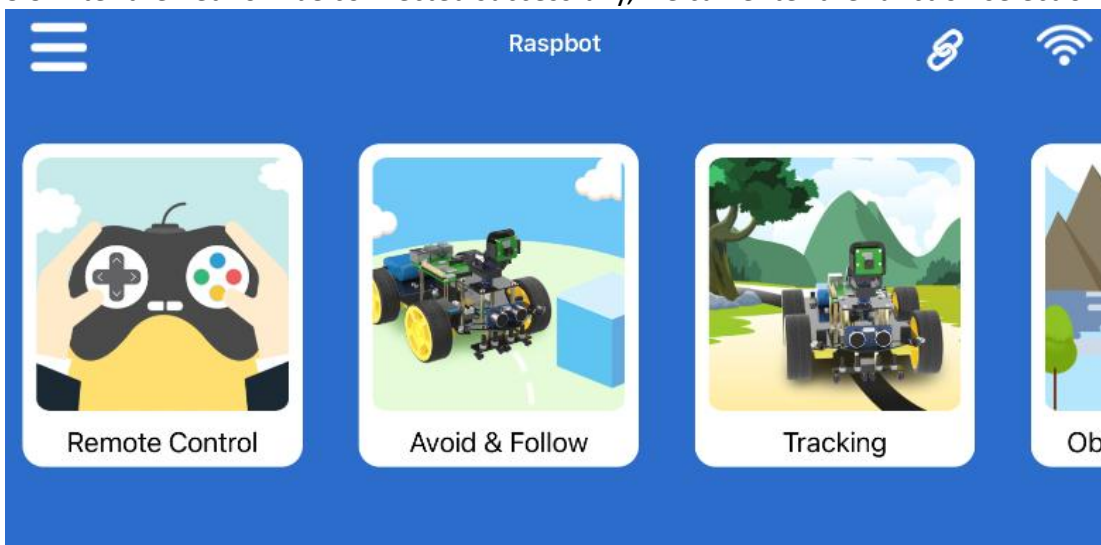

3.8 If the device is not searched for a long time, please check the network status of the car, or try to use IP connection.
"IP": Input the IP address of your car, "Port": 6000, "Video": 6001.

3.9 After the network be connected successfully, we can enter the function selection interface.

3.10 When you need to switch WIFI network, click the button in the red box as shown below. Enter the network configuration mode according to the prompts on the APP. When the buzzer whistle once and the LED2 indicator keep flashing quickly, we can start configure network again according to step 5.
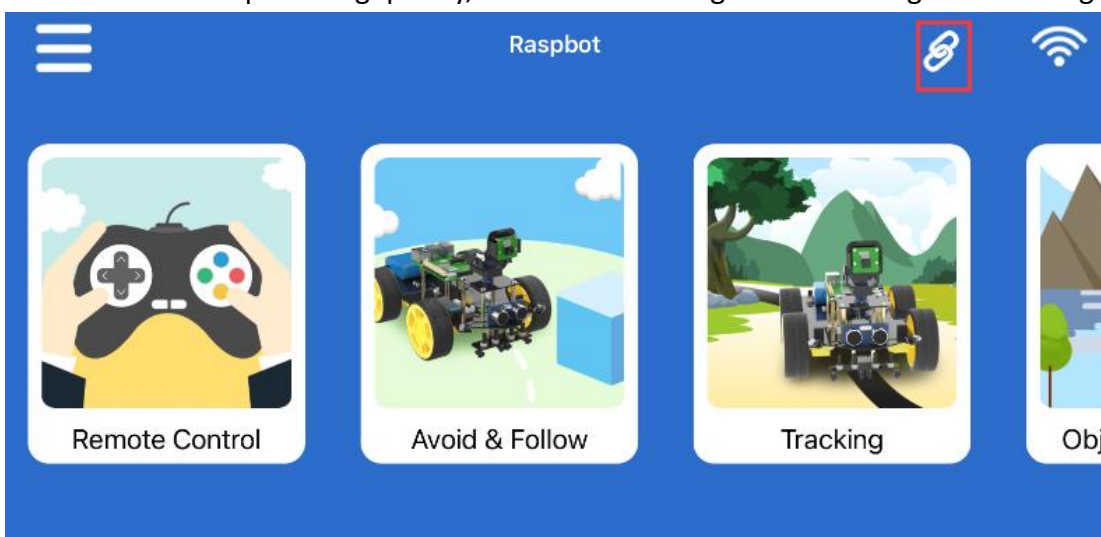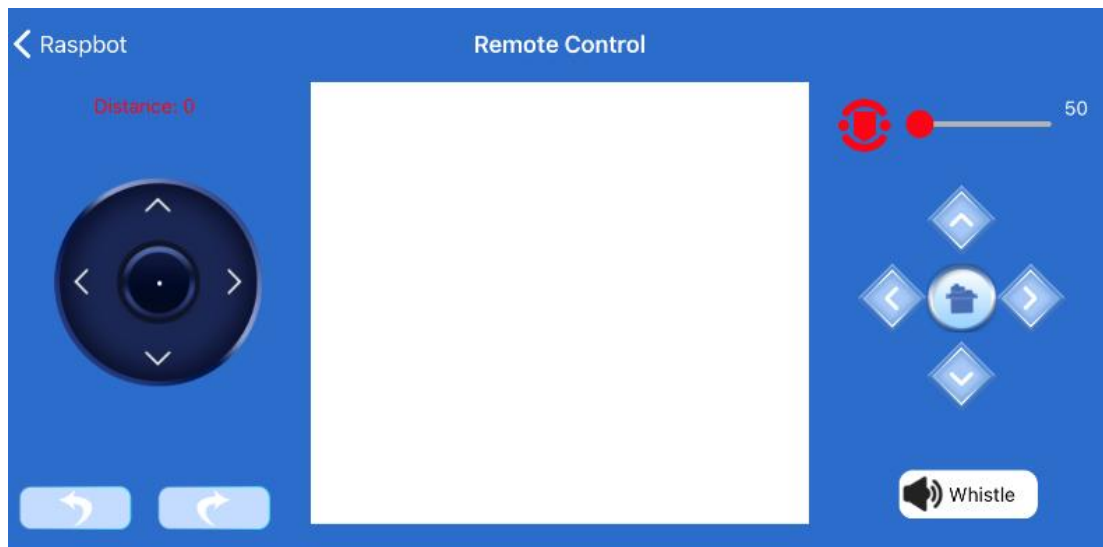

4.APP function
4.1 Remote Control
The rocker on the left can control the movement of robot car. The button on the right can control the

camera platform.

The slider in the upper right corner can control the movement speed of [Remote Control] and [Identification & Control].


4.2 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.
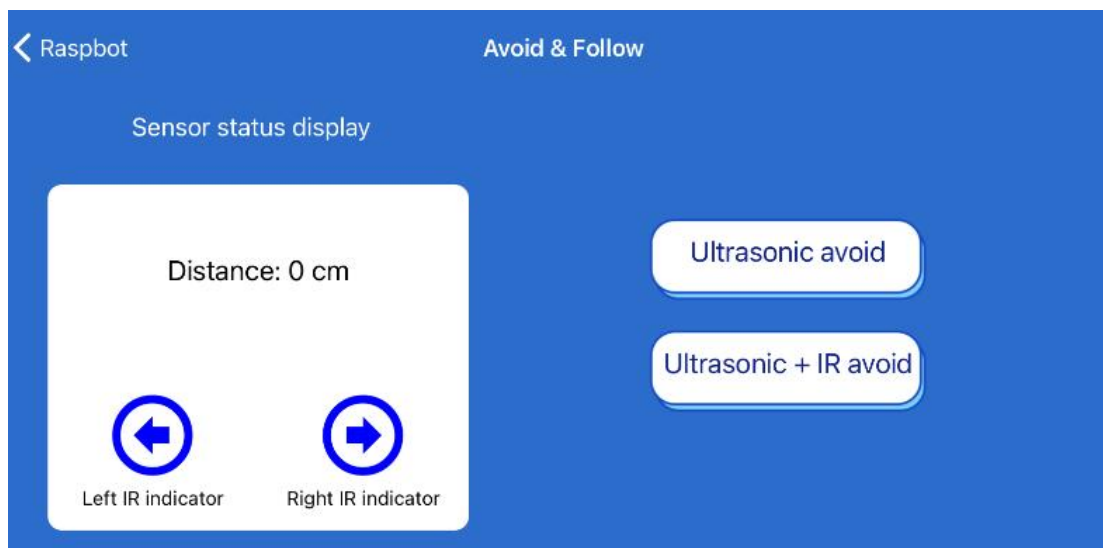
4.3 Tracking mode

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
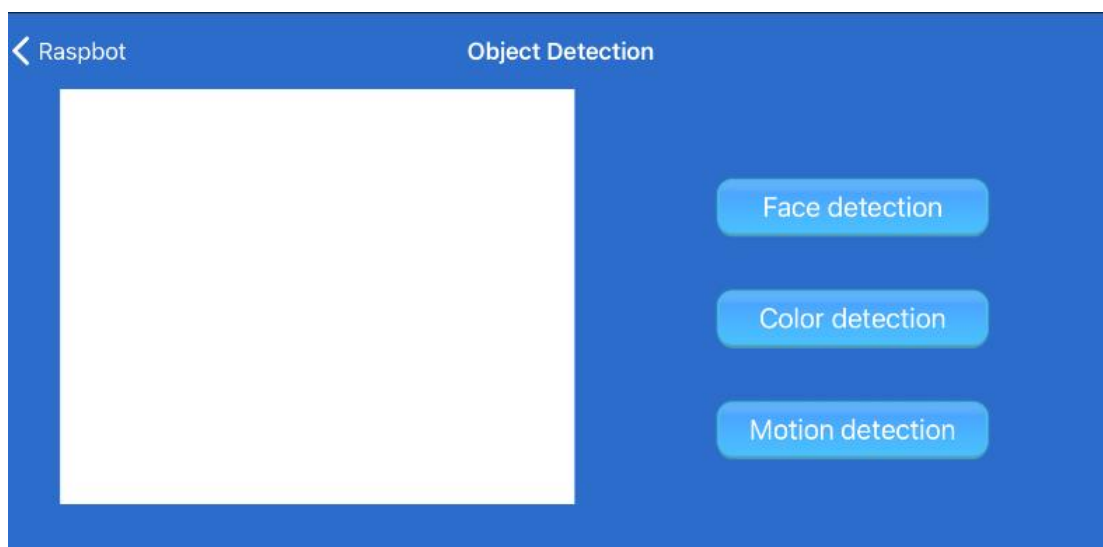
the button again to close this function.

4.4 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.


4.5 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).
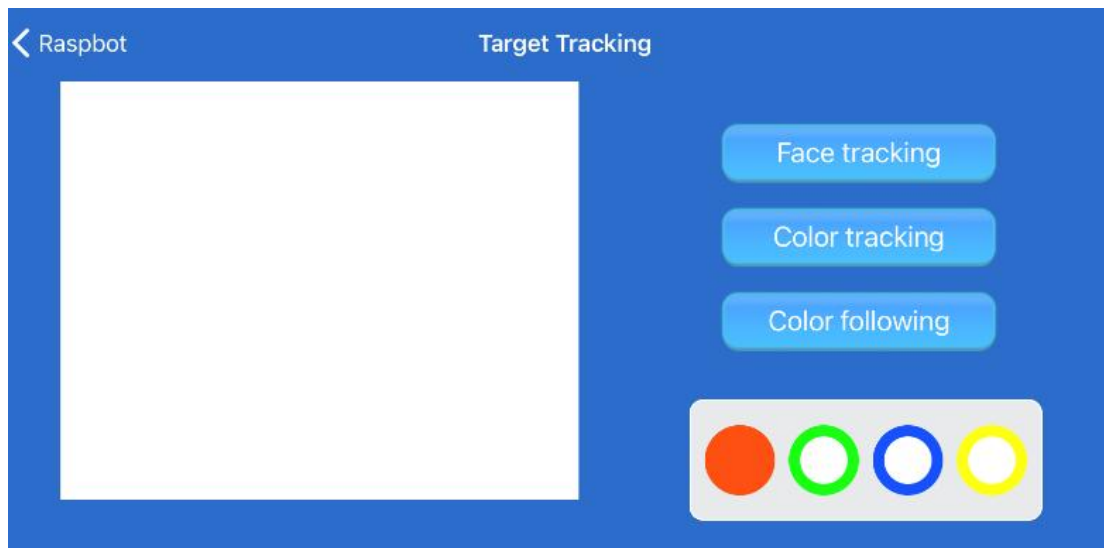

3.4 Target recognition

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.
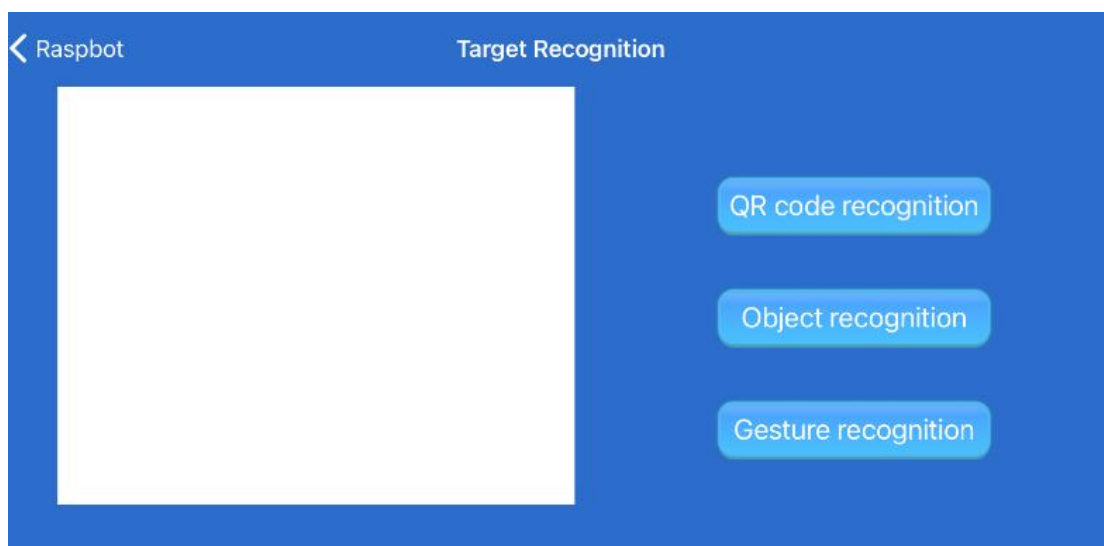
3.5 Identify & Control

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.
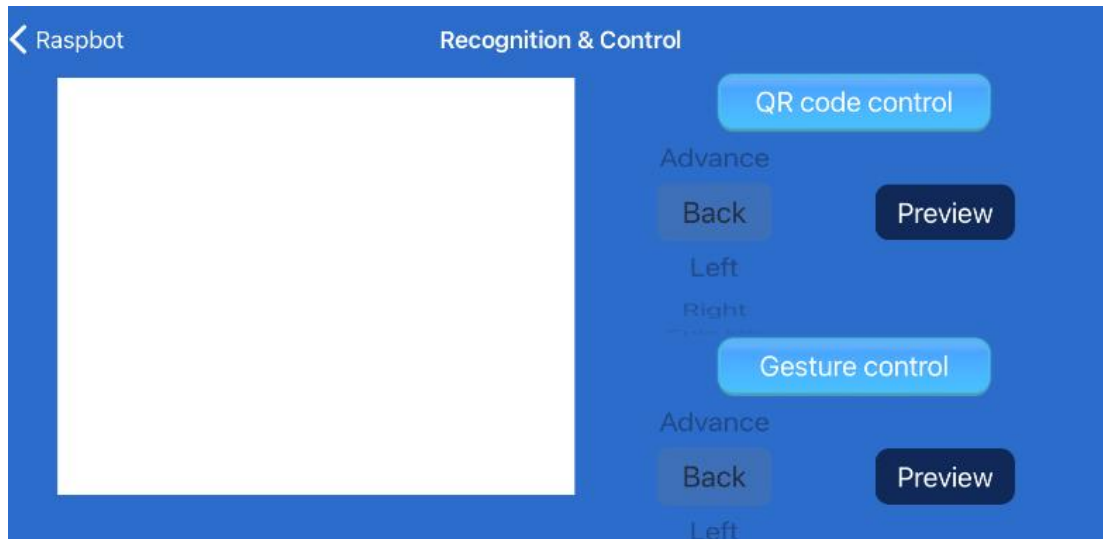
3.7 Autopilot
Click [Switch] to switch three modes screen: normally screen, perspective transformation screen, and normalized processing screen with processing lines.
After entering the autopilot interface, the camera platform will move to the default position. We can adjust the position of the camera 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.