

Lesson 4 Introduction to the Radar Scanning

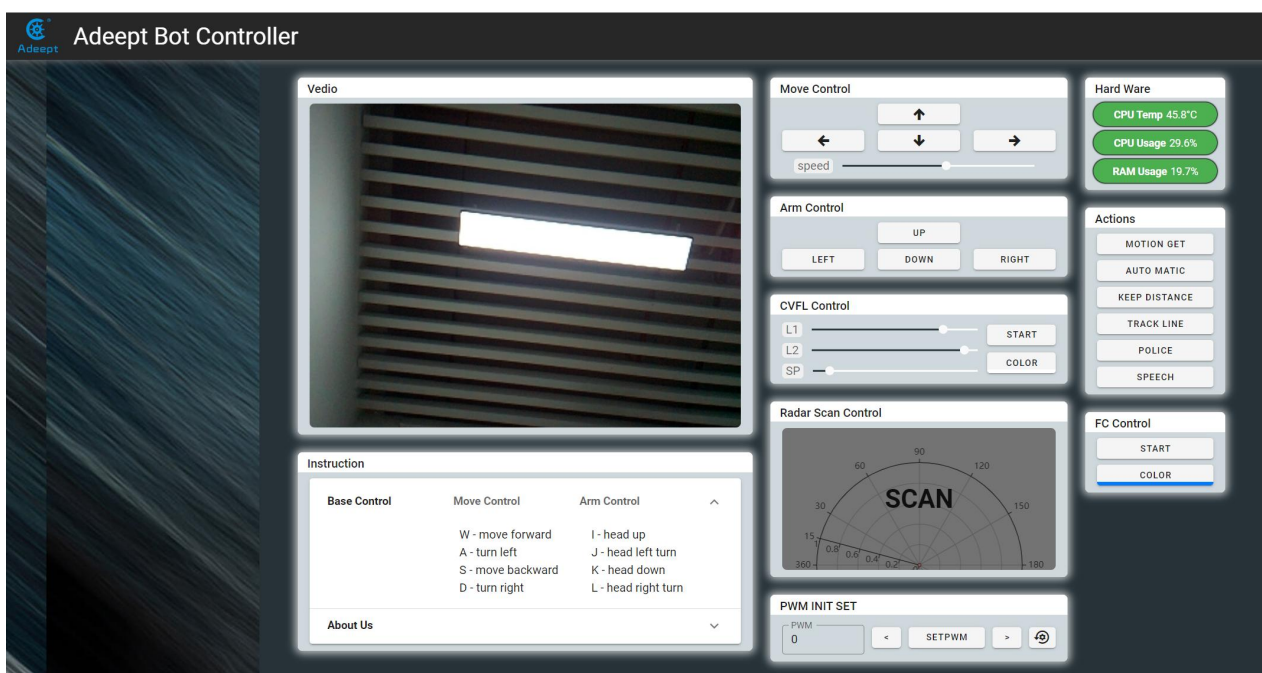
4.1 Function Introduction

Radar Scanning refers to that when running the program, PiCar-b will turn the servo to rotate the ultrasonic module, detect the surroundings via the ultrasonic module, test the distance between the robot and surrounding objects, and display the corresponding distance in the WEB control interface.

4.2 Turn on the Radar Scanning

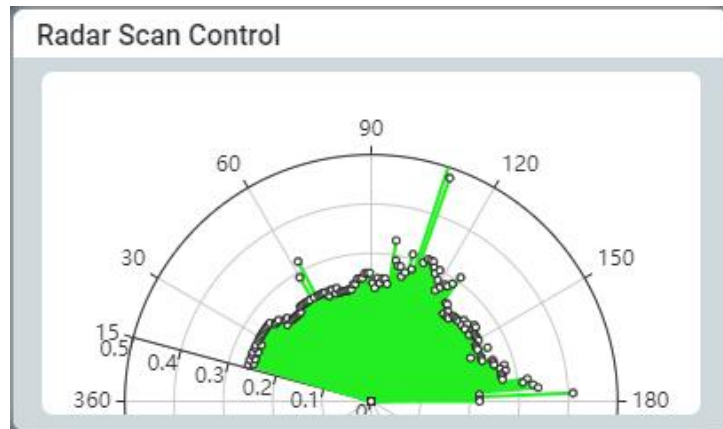
Run the Radar Scanning program

1. Start up Raspberry Pi robot for about 30s-60s.
2. When PiCar-B is started up, enter the IP address of your Raspberry Pi on the Google browser of your mobile phone or computer, and access Port 5000, for example: 192.168.3.44:5000. Then the web controller will be displayed on the browser.



3. Place the trolley at the position to be detected.

4. Click the pattern "SCAN", and PiCar-B will rotate and detect the surroundings. The scanning results will be displayed in the pattern "SCAN".



4.2 Main Code

Please see the complete code in [functions.py](#).

```

01 def radarScan(self):
02     pwm0_min = -90
03     pwm0_max = 90
04
05     scan_speed = 1
06     result = []
07
08     pwm0_pos = pwm0_max
09     scGear.moveAngle(1, 0)
10     time.sleep(0.8)
11
12     while pwm0_pos > pwm0_min:
13         pwm0_pos -= scan_speed
14         scGear.moveAngle(1, pwm0_pos)
15         dist = ultra.checkdist()
16         if dist > 200:
17             continue
18         theta = 90 - pwm0_pos
19         result.append([dist, theta])
20         time.sleep(0.02)
21

```

```
22     scGear.moveAngle(1, 0)
23     return result
```