Lesson 20 Light Tracking Car

20.1 Overview

The focus of this lesson is to build a light tracking vehicle using an Adeept Robot Control Board based on Arduino. The car is designed to detect the position of the light source and adjust its movement accordingly.

20.2 Principle Introduction

When the light hits the left photoresistor, the resistance of the left side becomes smaller, and the value of the photosensitive module becomes smaller; when the light hits the right photoresistor, the resistance of the right side becomes smaller, and the value of the photosensitive module becomes smaller. get bigger. First check the initial value of the photosensitive module in the absence of light source interference (the value is 2048 in standard cases, but the actual value is usually high or low). Then make the car track the light source according to the change of the light source on the left and right sides of the photosensitive module.

20.3 Main Code

```
01  void Light_Tracking(){
02    value = GetPhotosensitive();
03    if (value < (lightADC - lightThreshold)){
04      Motor(1, -1*dir, motor_speed);
05      Motor(2, -1*dir, motor_speed);
06      Motor(3, 1*dir, motor_speed);
07      Motor(4, 1*dir, motor_speed);
08      Serial.print("LIGHT ADC:");
09      Serial.println(value);
10    }
11    else if (value > (lightADC + lightThreshold)){
12      Motor(1, 1*dir, motor_speed);
13      Motor(2, 1*dir, motor_speed);
14      Motor(3, -1*dir, motor_speed);
15      Motor(4, -1*dir, motor_speed);
16      Serial.print("LIGHT ADC:");
17      Serial.println(value);
18    }
19    else{
20      Motor(1, 1*dir, motor_speed);
21      Motor(2, 1*dir, motor_speed);
22      Motor(3, 1*dir, motor_speed);
```

```
23      Motor(4, 1*dir, motor_speed);
24      Serial.print("LIGHT ADC:");
25      Serial.println(value);
26    }
27
28  }
```

For the complete code, please refer to the "IR_Control.ino" and "Adeept_Car_For_Arduino.cpp" files.