5.1 Car moving forward

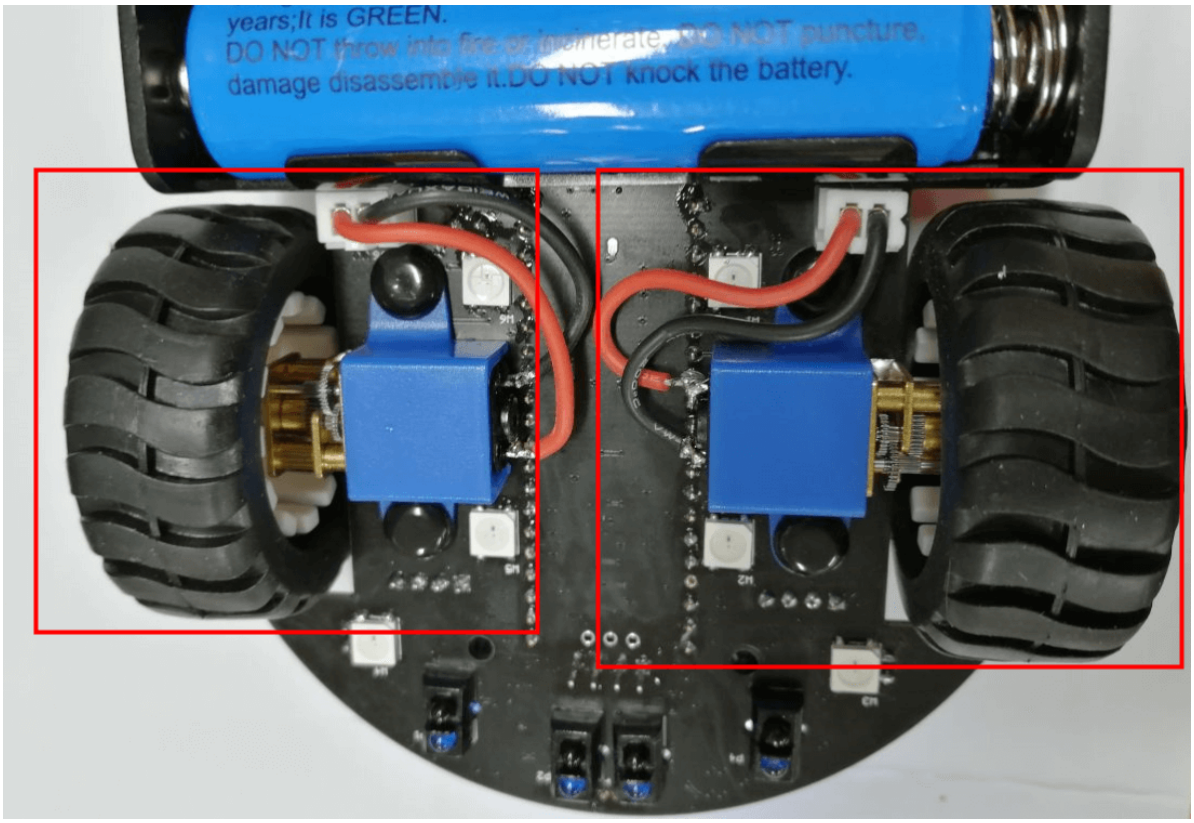
Note: The motor speed is affected by the battery power. The routine is when the battery power is high (the power value is above 26000). If the battery power is low, you need to charge it in time or modify the motor speed.

I. Learning objectives

1. Learn to combine the motor of the Raspberry Pi Pico 2/Pico mainboard and the car expansion board for experiments.
2. Understand the use of motors.

II. Hardware use

This course uses the motors of the Pico 2/Pico mainboard and the car expansion board. **Note that running the routine will make the car run forward for 1s. Please avoid steps in front or pick up the car to avoid damage**.



We have integrated the motor drive circuit on the expansion board of the car. We only need to use PWM to control the direction and speed of the motor. By adjusting the duty cycle of PWM, the longer the high level time, the faster the motor speed. Inside the motor, the current is converted into a magnetic field through the coil, and the motor rotates under the action of the magnet.

Three, program analysis

Code path: Code -> 3.Robotics course -> 1.Car forward.py

```
from pico_car import pico_car
import time

Motor = pico_car()
#Car forward，parameter(Left motor speed，Right motor speed),speed 0-255
Motor.Car_Run(255,255)
time.sleep(1)
#Car stop
Motor.Car_Stop()
```

from pico_car import pico_car

Use pico_car from pico_car, which is our encapsulated motor driver library.

import time

The "time" library. This library handles everything related to time, from measuring it to inserting delays into the program. The unit is seconds.

Motor = pico_car()

Initialize the motor driver.

Motor.Car_Run(255,255)

Control the car to move forward, set the speed to 255, the parameters are (left motor speed, right motor speed), and the speed range is 0-255.

Motor.Car_Stop()

Control the car to stop.

Fourth, Experimental Phenomenon

After the program is downloaded, the car will move forward at the maximum speed for 1s and then stop.