

# Project Document 6

## 内容部署

[05/01] 在没有电机驱动的情况下，先行缺省电机，运行测试

## 进展

05/08

1. 调试 PythonCode 文件夹中的下列程序运行正常：

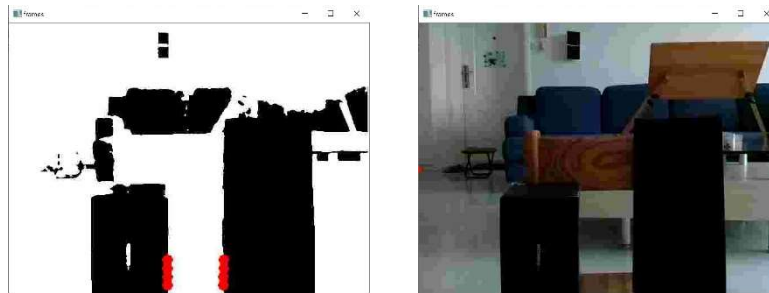
main\_tennis\_tracking.py    main\_lane\_tracking.py

main\_trace\_test.py        main\_PID\_test.py

- a) main\_tennis\_tracking.py



- b) main\_lane\_tracking.py



- c) main\_trace\_test.py 是红外循迹功能将 infrared.py 的输出二值化转义为循迹控制命令(日志见附件一)
- d) main\_PID\_test.py 是超声波避障功能将超声波测距的返回值处理为速度控制命令(日志见附件二)

## 附件一

```
pi@raspberrypi ~/RaspberryCar/PythonCode $ python3 main_PID_test.py
Going straight
Going straight
...
(Multiple similar lines left out for simplicity)
...
Going straight
Going straight
Going left
Going straight
Going straight
...
(Multiple similar lines left out for simplicity)
...
Going straight
Going straight
Going right
Going straight
Going straight
...
(Multiple similar lines left out for simplicity)
...
Going straight
^CGoing straight
Measurement stopped by User
```

## 附件二

```

pi@raspberrypi:~/RaspberryCar/PythonCode $ python3 main_PID_test.py
Distance: 121.8732018979487 Forward: True Speed: 100
Distance: 79.49272433344717 Forward: True Speed: 90.25467657699701
Distance: 73.46341379369139 Forward: True Speed: 87.8604827397158
...
(Multiple similar lines left out for simplicity)
...
Distance: 11.407841556948323 Forward: False Speed: 33.59210651297456
Distance: 11.378505490955094 Forward: False Speed: 33.62442811564423
Distance: 11.336656145798441 Forward: False Speed: 33.66752878871722
...
(Multiple similar lines left out for simplicity)
...
Distance: 125.74145798194012 Forward: True Speed: 100
^CMeasurement stopped by User
Traceback (most recent call last):
  File "main_PID_test.py", line 44, in <module>
    dist_mov_ave = car.DistMeasureMovingAverage()
  File "/home/pi/RaspberryCar/PythonCode/ultrasound.py", line 47, in DistMeasureMovingAverage
    dist_current = self.DistMeasure()
  File "/home/pi/RaspberryCar/PythonCode/ultrasound.py", line 37, in DistMeasure
    while GPIO.input(self.GPIO_ECHO) == 1: # the duration of high level of ECHO is the time
    between the emitting the pulse and receiving the echo
KeyboardInterrupt

During handling of the above exception, another exception occurred:

Traceback (most recent call last):
  File "main_PID_test.py", line 72, in <module>
    car.AllStop()
  File "main_PID_test.py", line 26, in AllStop
    CarCamera.CameraCleanup(self)
  File "/home/pi/RaspberryCar/PythonCode/camera.py", line 43, in CameraCleanup
    self.server.sendall(struct.pack('c',1)) #发送关闭消息
struct.error: char format requires a bytes object of length 1

```