

2、Voice control of car movement

Take our company's product Rosmaster-X3 as an example to illustrate how to call Speech in the program_ The Lib library performs speech recognition to control the motion of the car/robot. This course needs to be combined with the hardware of the Rosmaster-X3 car, and only code analysis will be done here. Firstly, let's take a look at the built-in voice commands ,

| functional word | Speech recognition results | Voice broadcast content |
|-----------------|----------------------------|--------------------------------------|
| Stop | 2 | OK , I'm stop |
| Go ahead | 4 | OK , let's go. |
| Back | 5 | OK , I'm back. |
| Turn left | 6 | OK , I'm turning left. |
| Turn right | 7 | OK , I'm turning right. |
| Close light | 10 | OK, light is closed. |
| Red light up | 11 | OK, red light is on |
| Green light up | 12 | OK, green light is on. |
| Blue light up | 13 | OK, blue light is on. |
| Yellow light up | 14 | OK, yellow light is on. |
| light A | 15 | OK, light A is on. |
| lightB | 16 | OK, light B is on. |
| light C | 17 | OK, light C is on. |
| display power | 18 | OK, battery value has been display . |

1、Start program

Terminal input,

```
roslaunch yahboomcar_voice_ctrl voice_ctrl_yahboomcar.launch
```

```

jetson@SSD:~$ roslaunch yahboomcar_voice_ctrl voice_ctrl_yahboomcar.launch
... logging to /home/jetson/.ros/log/7e997aa8-b184-11ec-a4ed-18cc189b1fe5/roslaunch-SSD-8176.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://192.168.2.88:44367/

SUMMARY
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PARAMETERS
* /rostdistro: melodic
* /rosversion: 1.14.13
* /use_sim_time: False
* /yahboom_joy/angular_speed_limit: 5.0
* /yahboom_joy/linear_speed_limit: 1.0

NODES
/
  joy_node (joy/joy_node)
  voice_ctrl_driver_node (yahboomcar_voice_ctrl/voice_Ctrl_Mcnamu_driver.py)
  yahboom_joy (yahboomcar_ctrl/yahboom_joy.py)

auto-starting new master
process[master]: started with pid [8189]
ROS_MASTER_URI=http://192.168.2.88:11311

setting /run_id to 7e997aa8-b184-11ec-a4ed-18cc189b1fe5
process[rosout-1]: started with pid [8206]
started core service [/rosout]
process[voice_ctrl_driver_node-2]: started with pid [8213]
process[joy_node-3]: started with pid [8225]
process[yahboom_joy-4]: started with pid [8226]
[ WARN] [1648794318.139940562]: Couldn't set gain on joystick force feedback: Bad file descriptor
[ INFO] [1648794318.145309164]: Opened joystick: /dev/input/js0. deadzone_: 0.050000.
Rosmaster Serial Opened! Baudrate=115200
Speech Serial Opened! Baudrate=115200

```

2、Core code

code path: ~/driver_ws/src/yahboomcar_voice_ctrl/scripts/voice_Ctrl_Mcnamu_driver.py

```

#Import a library for speech recognition
from Speech_Lib import Speech
from Rosmaster_Lib import Rosmaster
#Creating objects and driving control objects for speech recognition
spe = Speech()
car = Rosmaster()
#Reading the content of speech recognition
speech_r = spe.speech_read()
#Send voice broadcast content
spe.void_write(speech_r)

```