

2. Voice control of car movement

Take our company's product Rosmaster-X3 as an example to explain how to call the Speech_Lib library in the program for voice recognition and then control the movement of the car/robot. This course needs to be combined with the Rosmaster-X3 car hardware, and only code analysis is done here. First, let's look at the built-in voice commands,

function word	Speech Module Recognition Results	Voice broadcast content
Robot 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.

function word	Speech Module Recognition Results	Voice broadcast content
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.
light B	16	OK, light B is on.
light C	17	OK, light C is on.
Display battery value	18	OK, battery value has been display.

1. Start the 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
=====
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

```

#导入语音识别的库 Import the speech recognition library
from Speech_Lib import Speech
from Rosmaster_Lib import Rosmaster
#创建语音识别的对象和驱动控制对象 Create speech recognition objects and driver control objects
spe = Speech()
car = Rosmaster()
#读取语音识别到的内容 Read the content of speech recognition
speech_r = spe.speech_read()
#发送语音播报内容 Send the speech broadcast content
spe.void_write(speech_r)

```