

3. 3. Voice control car movement

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3.3. Voice control car

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3.1. Function description

By interacting with the voice recognition module on ROSMASTER, the basic motion state control of forward, backward, parking, left turn, right turn, left turn and right turn can be realized by voice control, and the light strip effect can also be controlled.

3.2. start

3.2.1. function package path

```
~/yahboomcar/src/yahboomcar_voice_ctrl/
```

3.2.2. start

```
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
```

Core code analysis:

1. import the library of speech recognition

```
from Speech_Lib import Speech
from Rosmaster_Lib import Rosmaster
```

2. Create speech recognition objects and drive control objects

```
spe = Speech()
car = Rosmaster()
```

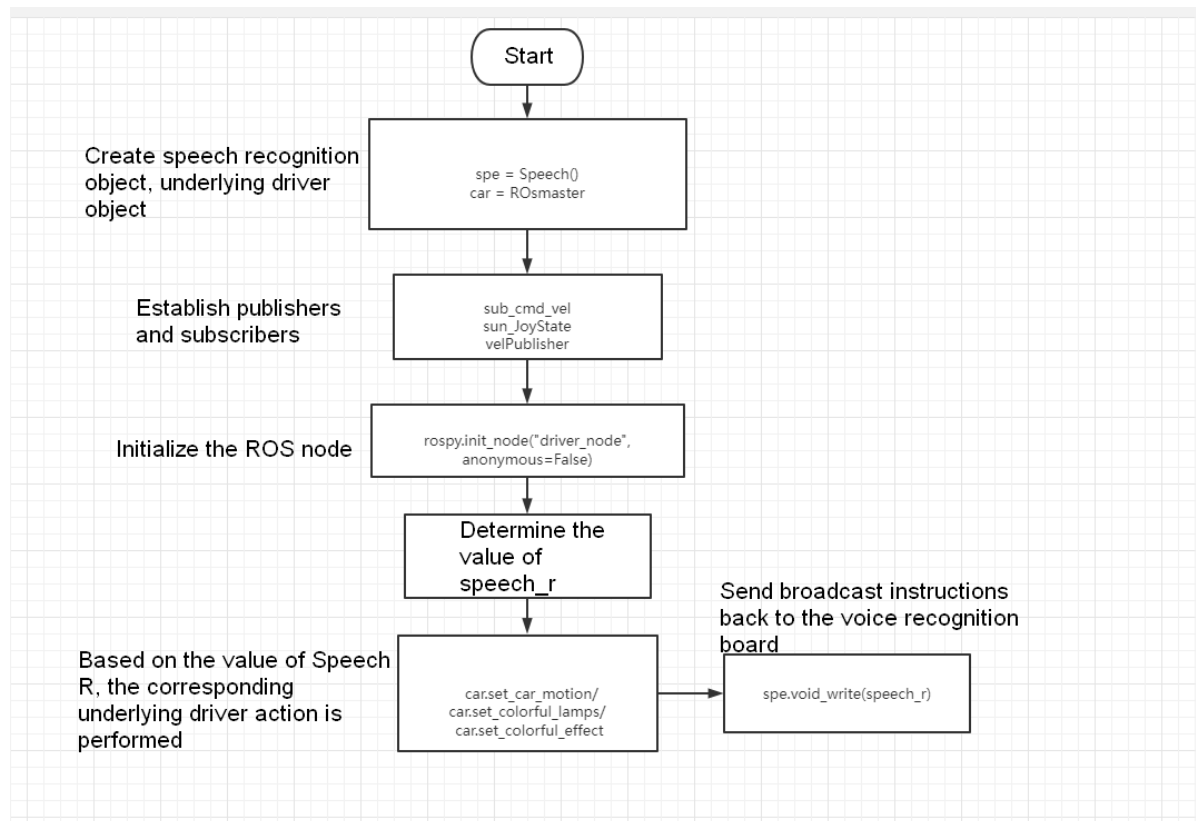
3. read the content recognized by the voice

```
speech_r = spe.speech_read()
```

4. send voice broadcast content

```
spe.void_write(speech_r)
```

Program flow chart:



The specific code can refer to

```
~/yahboomcar/src/yahboomcar_voice_ctrl/scripts/voice_Ctrl_Mcnamu_driver.py
```

3.3. Voice control car

Say "Hi Yahboom" to ROSMASTER, wait until the module broadcasts the reply "Hi , I'm here.", and follow the table below to switch/control the motion state of the car by voice.

3.3.1. Movement state

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.
Enter A mode	8	OK, I'm working on A mode.
Enter B mode	9	OK, I'm working on B mode.

3.3.2. Light strip effect

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.