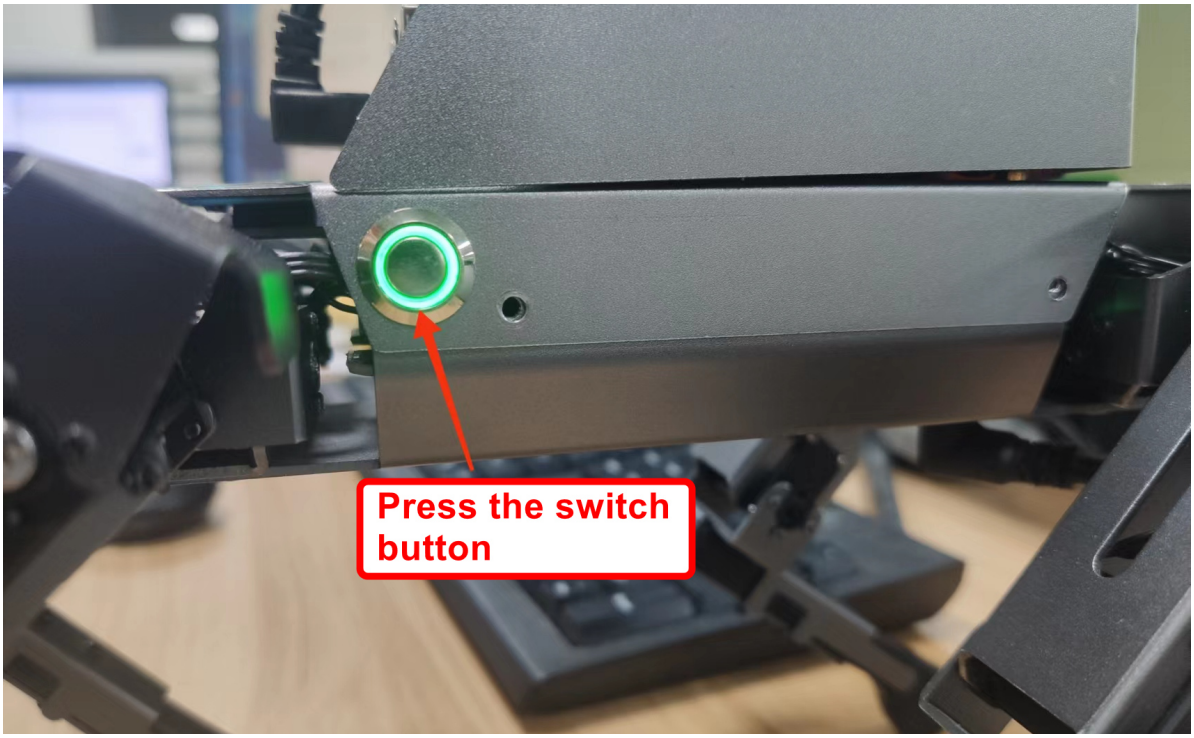
Trotgait

Quick use

1. Power on DOGZILLA

First, we turn on the switching power supply of the mechanical dog and start the mechanical dog



After starting, we can view the IP address on the small screen of the robot dog.

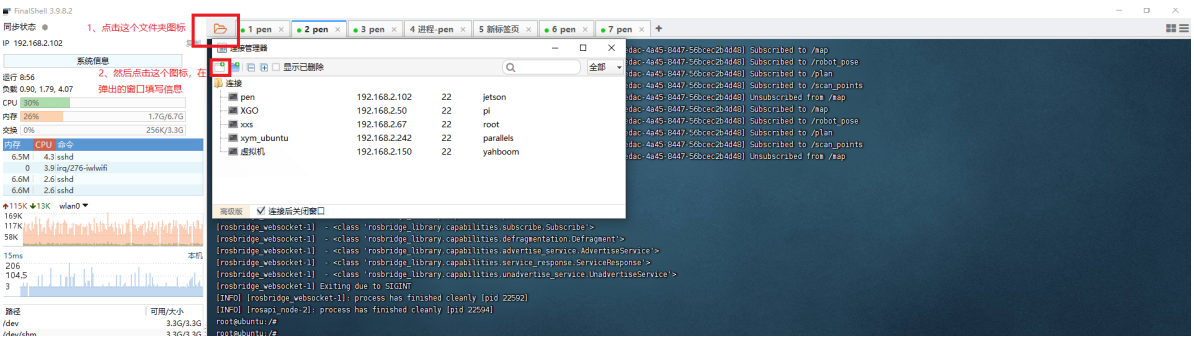
2. Start DOGZILLA chassis

PI4 version steps:

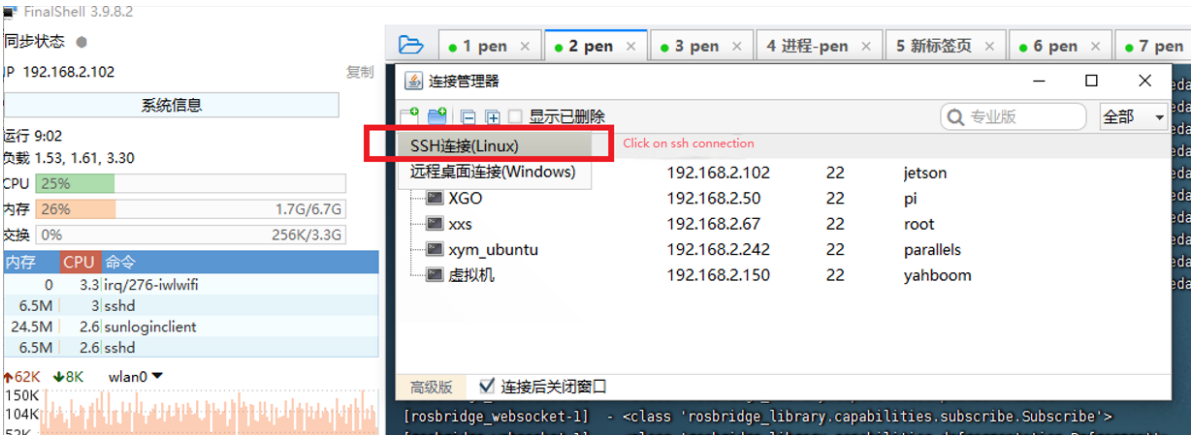
Then use the ssh terminal to connect to the robot dog.

Note: The IP address used when writing this tutorial: 192.168.2.102 User name: pi Password: yahboom The actual IP address shall prevail when used.

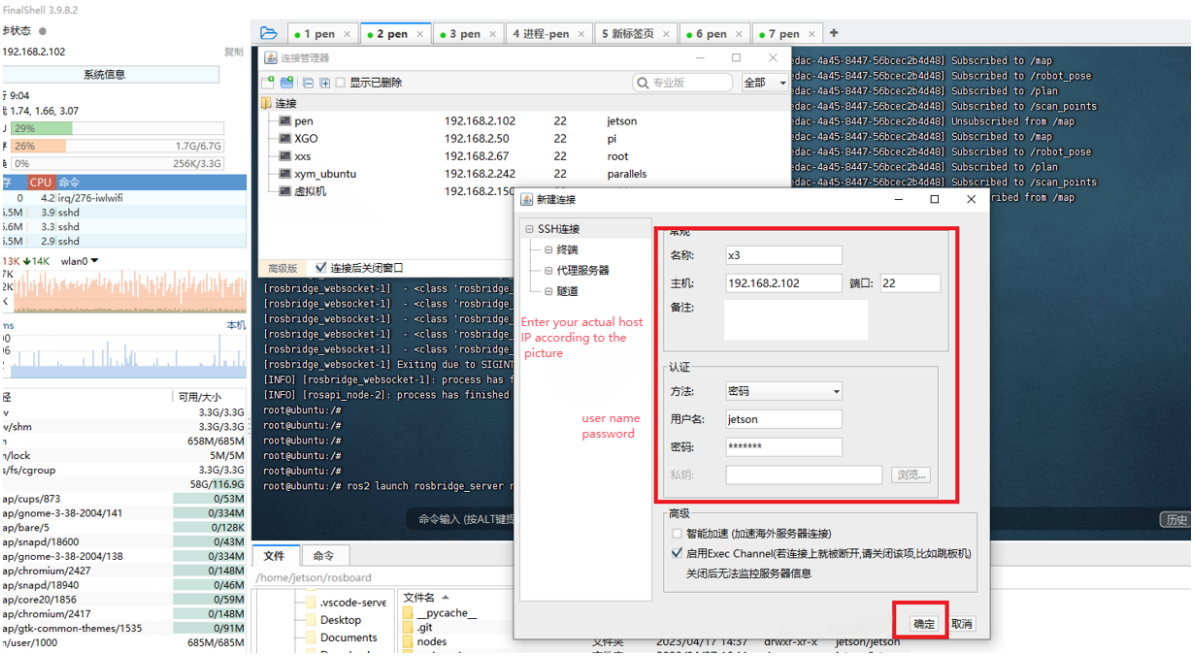
Open the shell tool. The shell tool I use here is FinalShell. Enter username, password, port, connection name and other information.



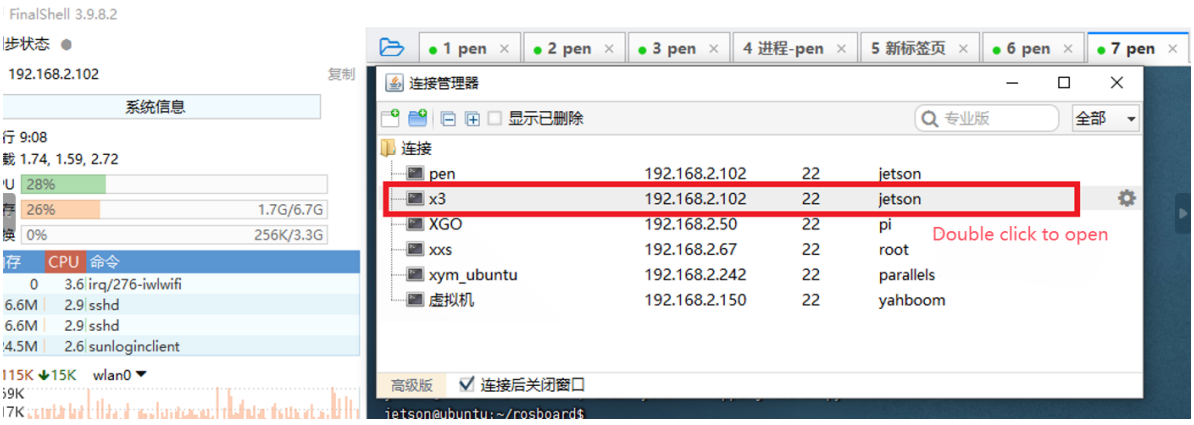
Select ssh connection to create a new ssh connection



Here the username is pi, the password is yahboom, and the ip address is the IP address of the real robot dog.

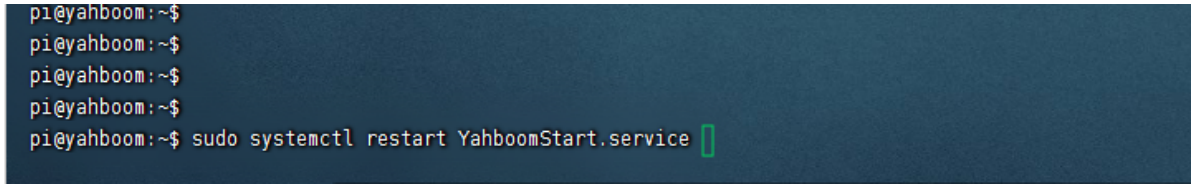


Select the ssh connection you just created here.



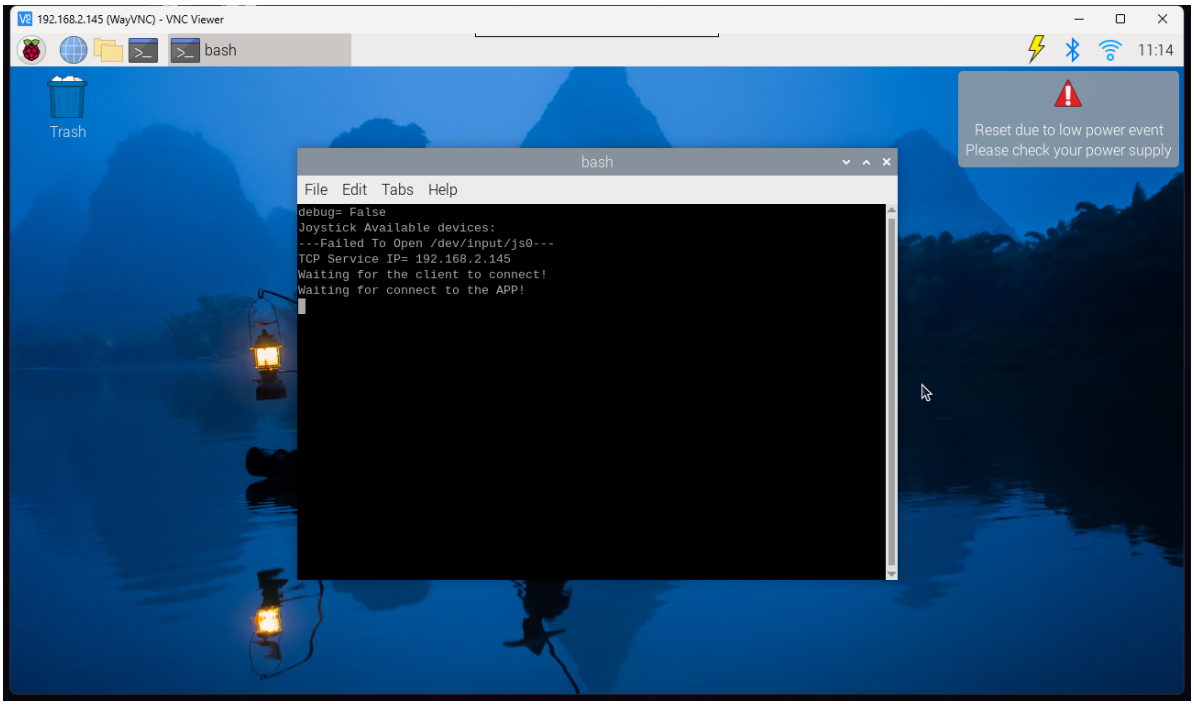
Enter the command in the terminal to start the chassis task.

```
sudo systemctl restart YahboomStart.service
```



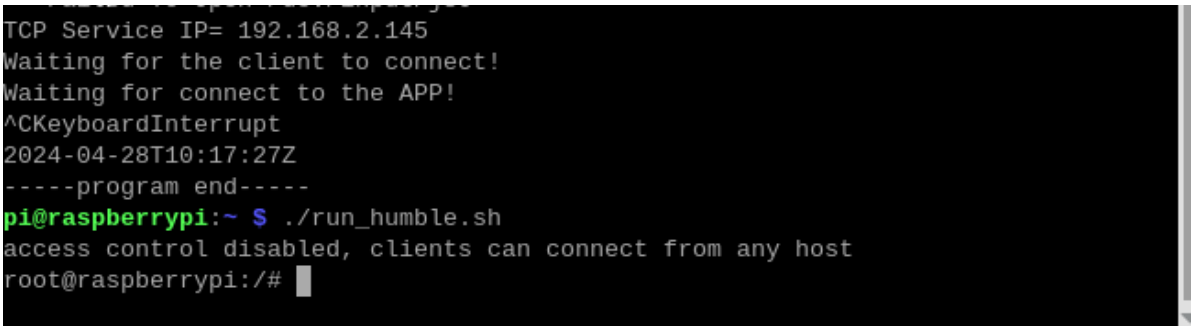
PI5 version steps:

After the mechanical dog is started, use the vnc software to remotely connect to the mechanical dog through the IP address on the OLED (**For specific steps, please see "Remote Login Operation")**.



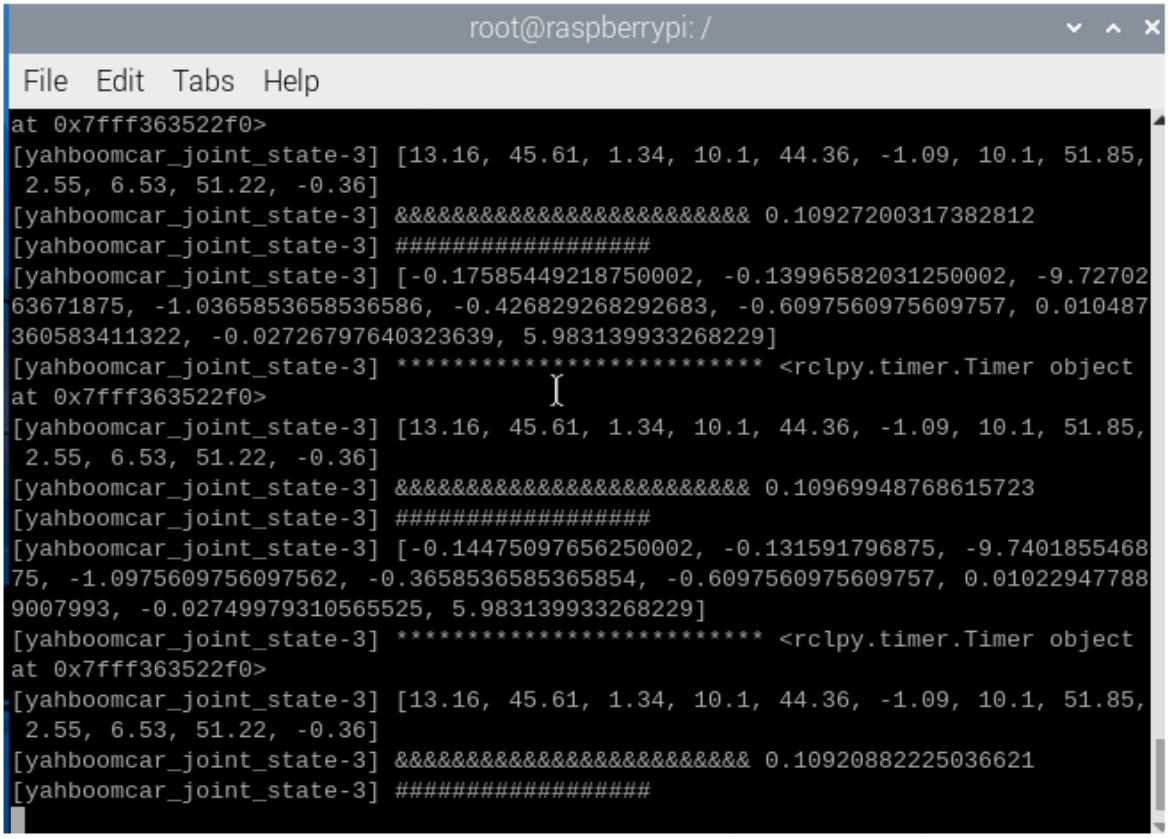
Then ctrl+c closes the large program and enter the following command to enter docker:

```
./run_humble.sh
```



Then enter the following commands in the docker terminal to start the car radar, imu, and mechanical dog joint status nodes.

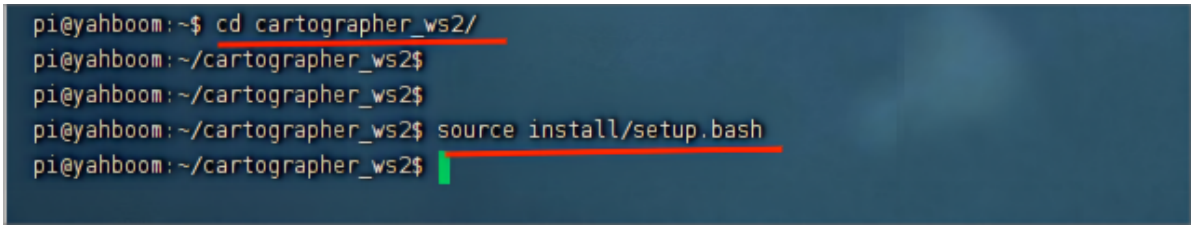
```
ros2 launch bringup Navigation_bringup.launch.py
```



3. Start the mechanical dog gait adjustment node

Enter the following command in the terminal

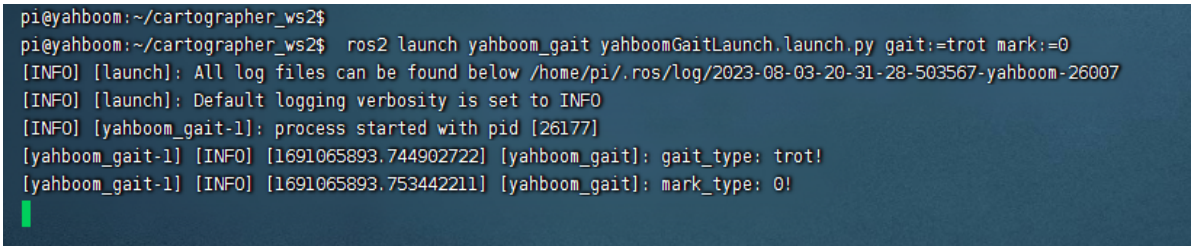
```
#pi4
cd cartographer_ws2/
source install/setup.bash
```



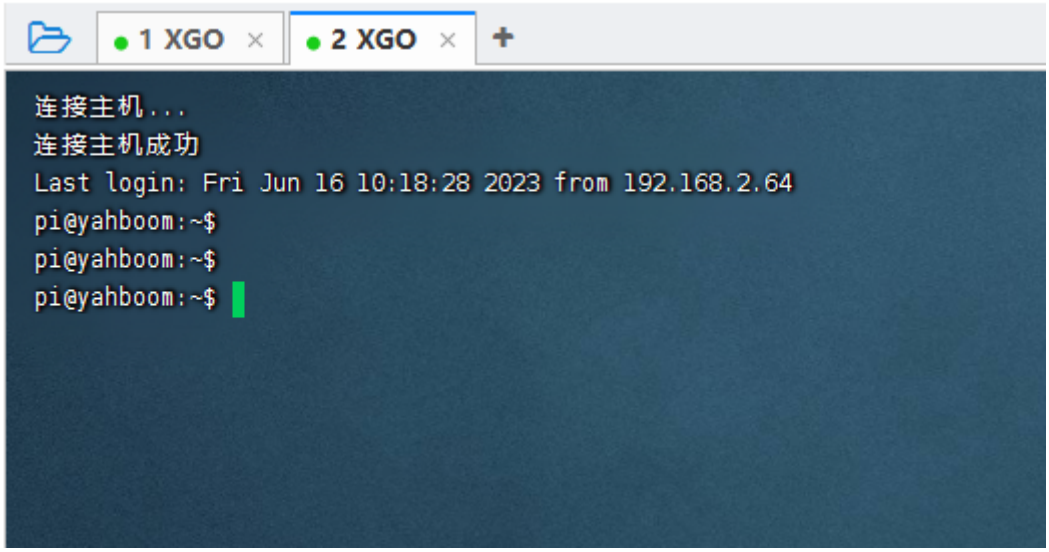
Then enter the following command

```
#pi4
ros2 launch yahboom_gait yahboomGaitLaunch.launch.py gait:=trot mark:=0
#pi5 (need to enter the same docker terminal)
ros2 launch yahboom_gait yahboomGaitLaunch.launch.py gait:=trot mark:=0
```

Note: The parameter gait is to set the gait type of the mechanical dog.

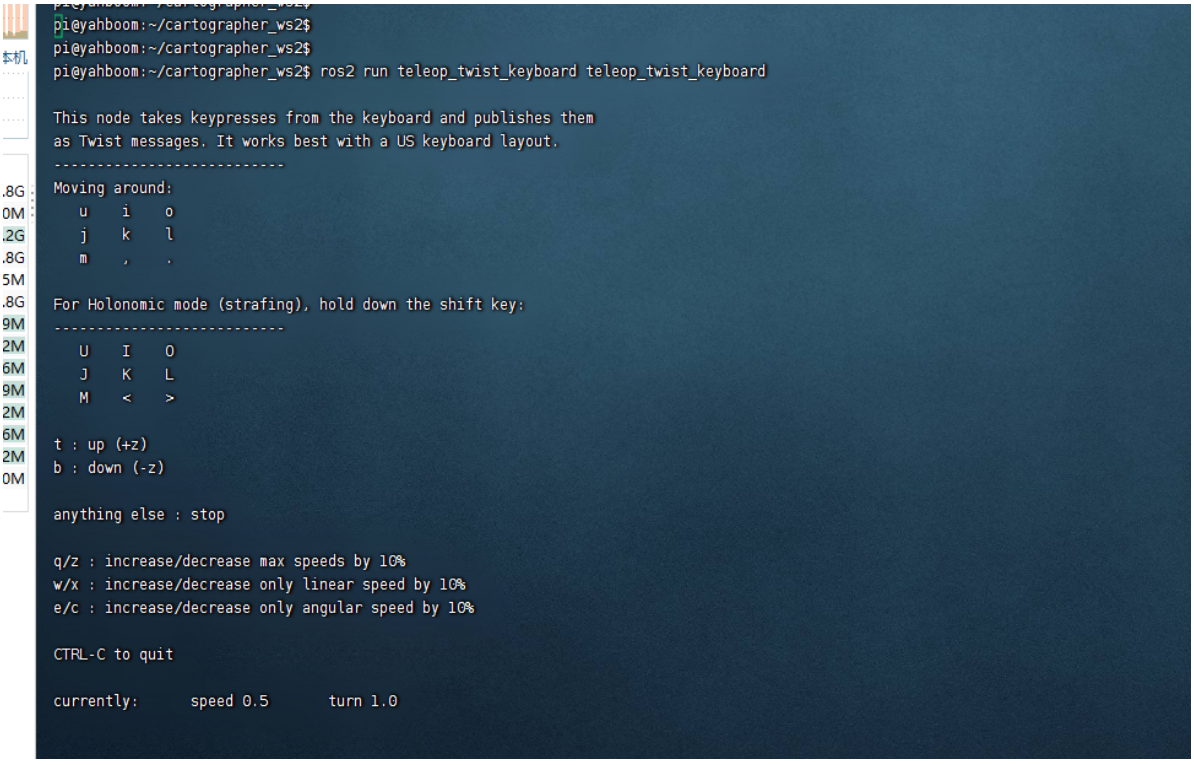


Restart a terminal in the same way as in item 2.



Enter the following command in a new terminal

```
#pi4
cd cartographer_ws2/
source install/setup.bash
ros2 run teleop_twist_keyboard teleop_twist_keyboard
#pi5 (need to enter the same docker terminal)
ros2 run teleop_twist_keyboard teleop_twist_keyboard
```



The robot dog can be controlled to walk through the keyboard. Among them, the keys i are for forward, k is for stop, , is for back, j is for turning left on the spot, and l is for turning right on the spot.

This state is now the trot gait, and this gait is also a commonly used gait for mechanical dogs.