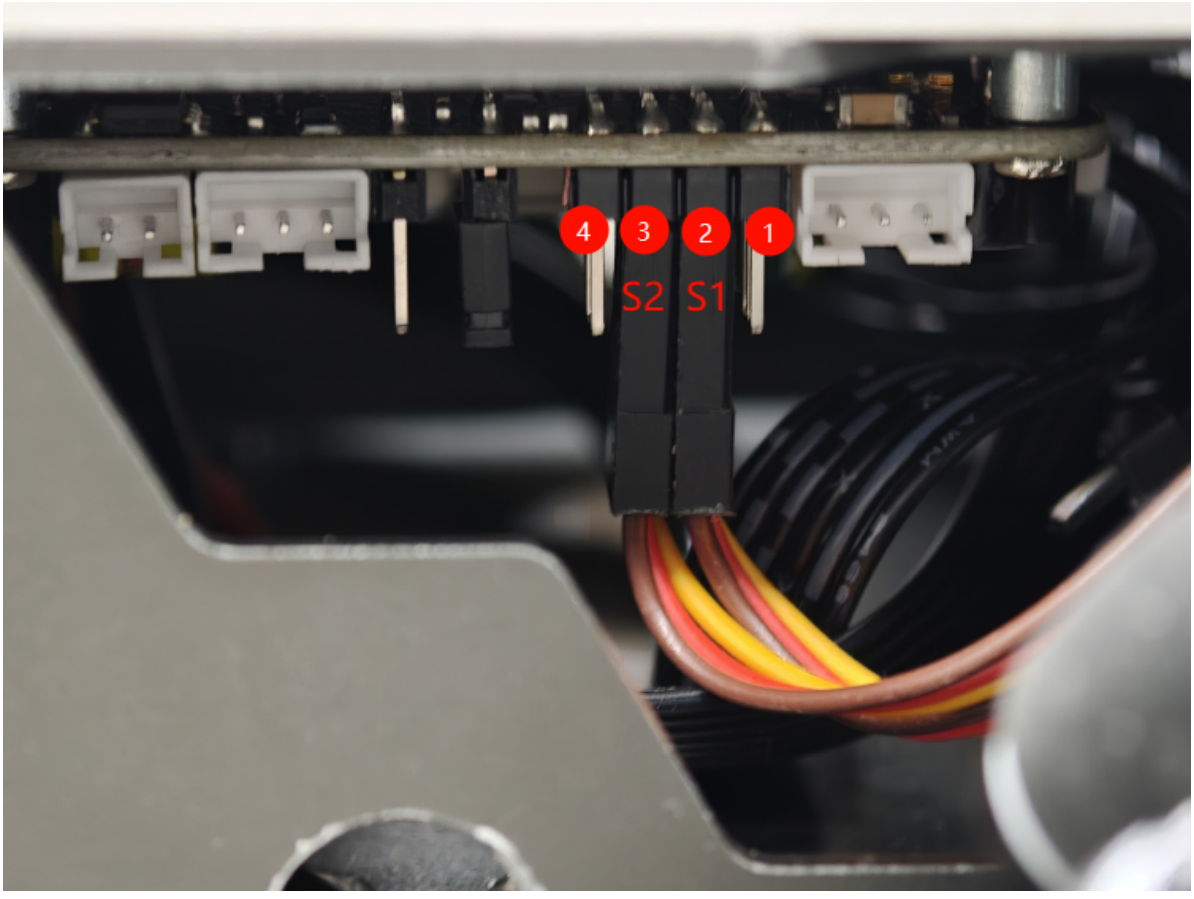
USB Camera, Servo PTZ User Guide (Must Read)

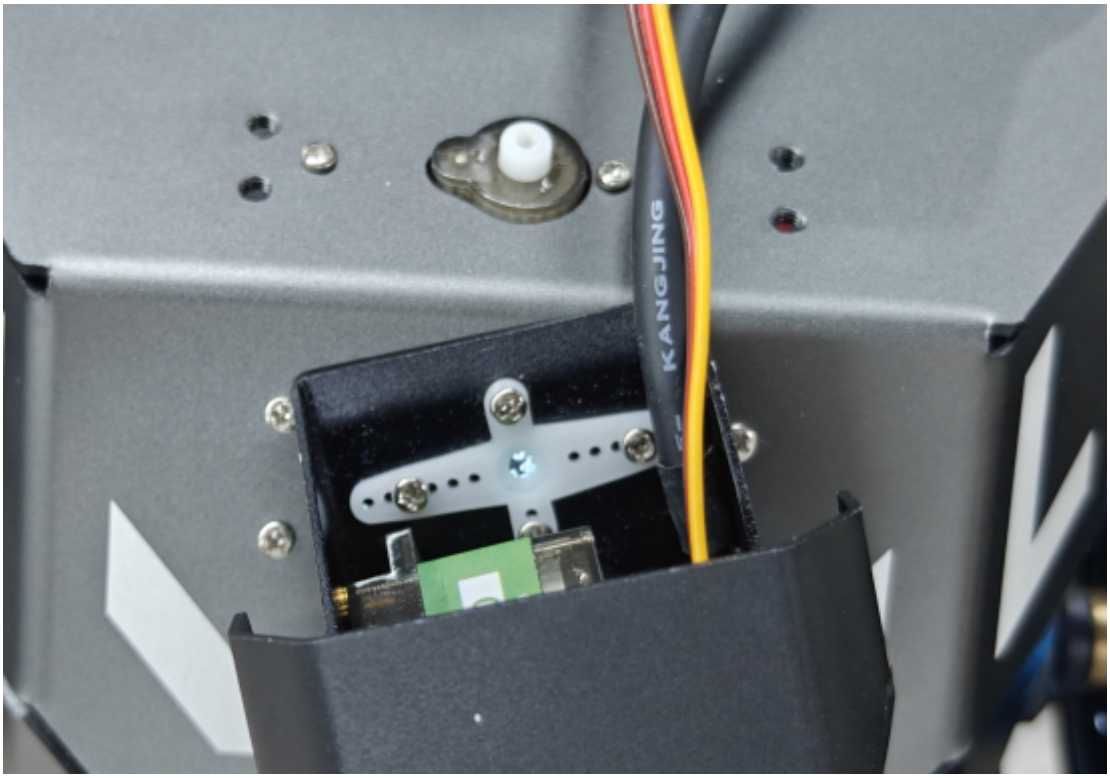
> Note: For the servo PTZ of the ROSMASTER-M1 robot, we need to perform the following operations before assembly to initialize the angles.

1. Installation

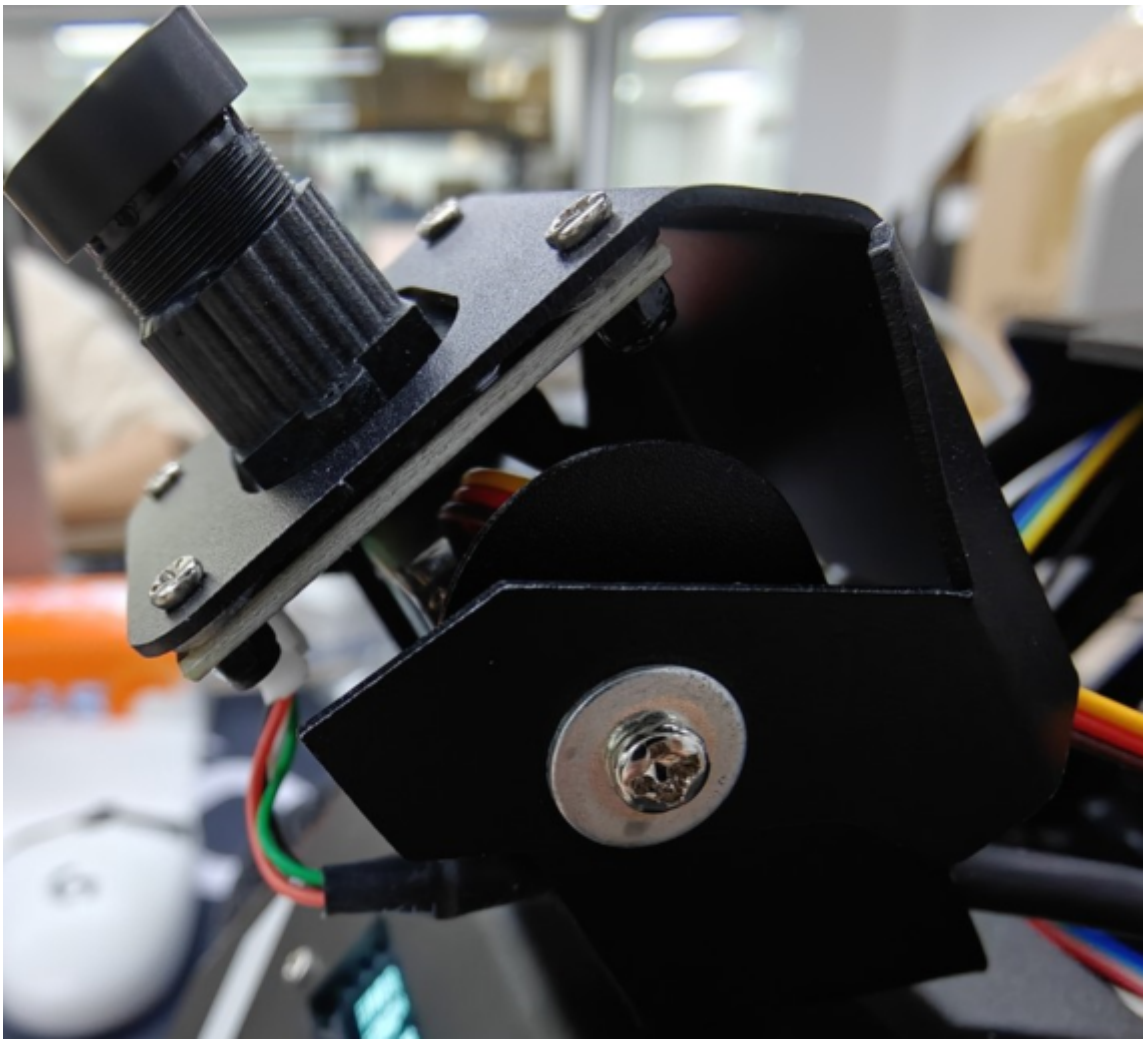
1. With the robot powered off, connect the servo wiring (S1 is the horizontal servo, S2 is the vertical servo) to the corresponding connections.



2. Keep the PTZ servos disassembled initially. Power on the robot, and the S1 and S2 servos will reset to their initial angles.



3. Then install the PTZ servos. Be careful not to rotate the horizontal servo gear angle at this time. After powering off the robot, tighten the screws.



2. Initial Value Settings

2.1 Auto-start Program Servo Initial Values

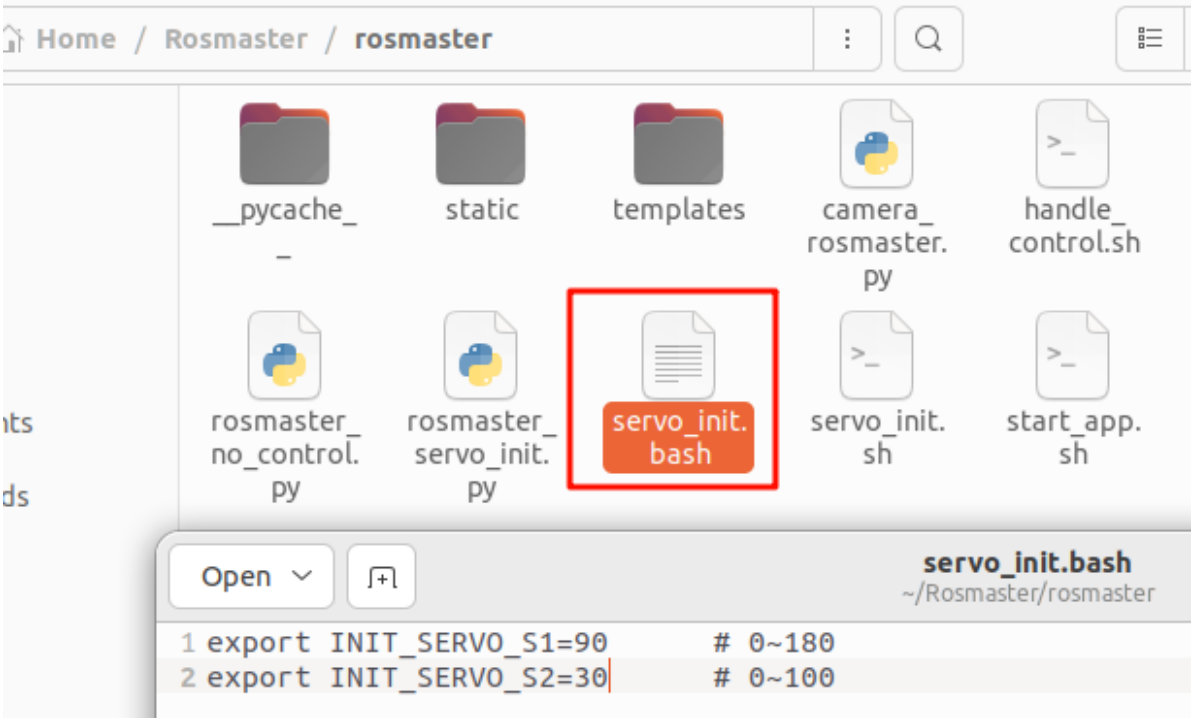
Each time the robot powers on, the ROS robot control board will set the PTZ to the initial angle (90,90). After entering the system, the `Servo Initial Position Program` will auto-start and set it to a preset angle (90,30).

⚠ Due to the servo structure itself, the gears will inevitably have an angle offset, so setting it to 90 degrees is not necessarily the camera's horizontal center angle.

Modification method:

- **ORIN Users:**

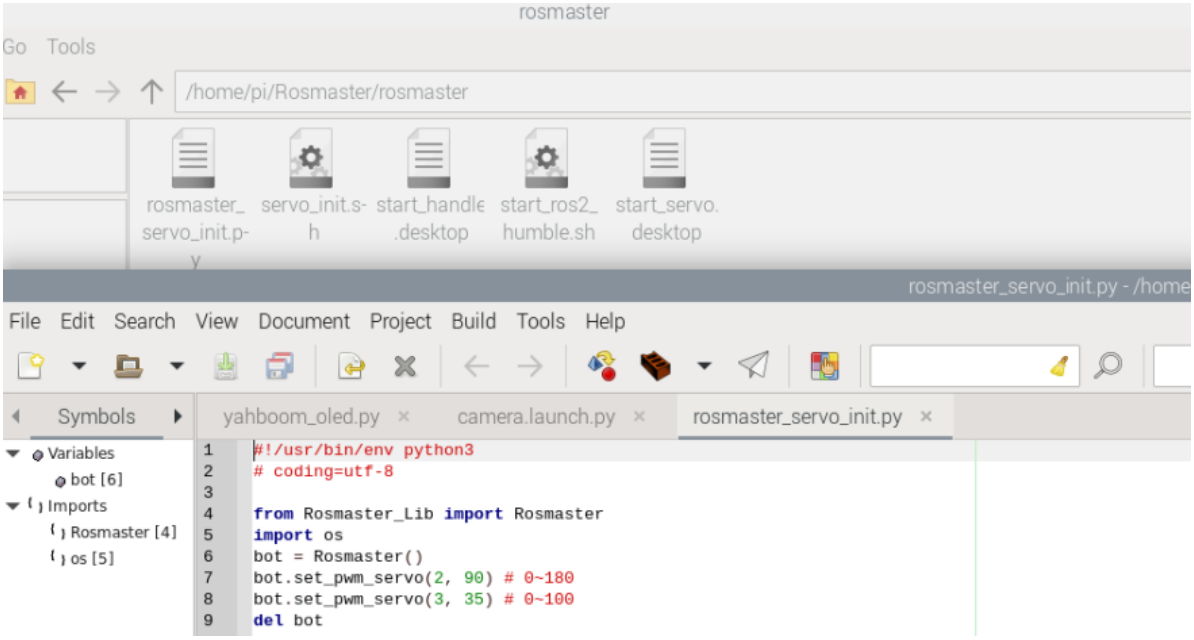
You can modify the parameters in `/home/jetson/Rosmater/rosmaster/servo_init.bash`.



This configuration will be applied to the `Servo Initial Position Program` and `Boot Auto-start Handle Control Program`

- **Pi5/Jetson Nano Users:**

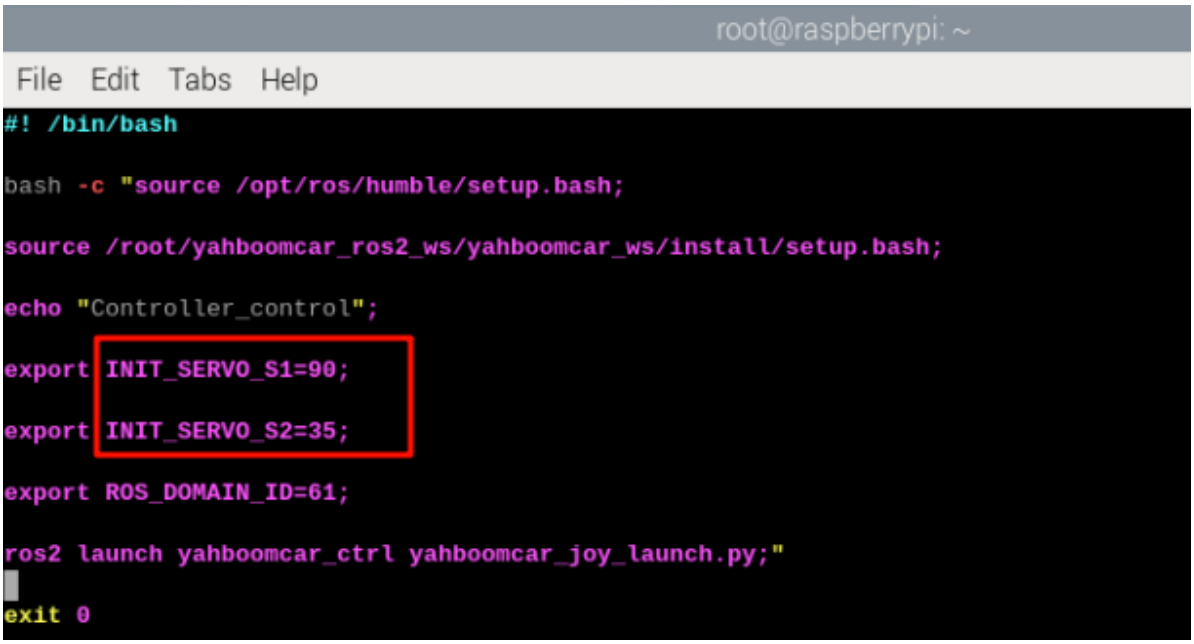
You can modify the parameters in `rosmaster_servo_init.py` in `/home/pi/Rosmaster/rosmaster` or `/home/jetson/Rosmaster/rosmaster`.



This configuration will be applied to the `Servo Initial Position Program`

After entering Docker, **(if you don't understand the operation, please refer to the Docker tutorial)**

```
vim run_handle.sh
```

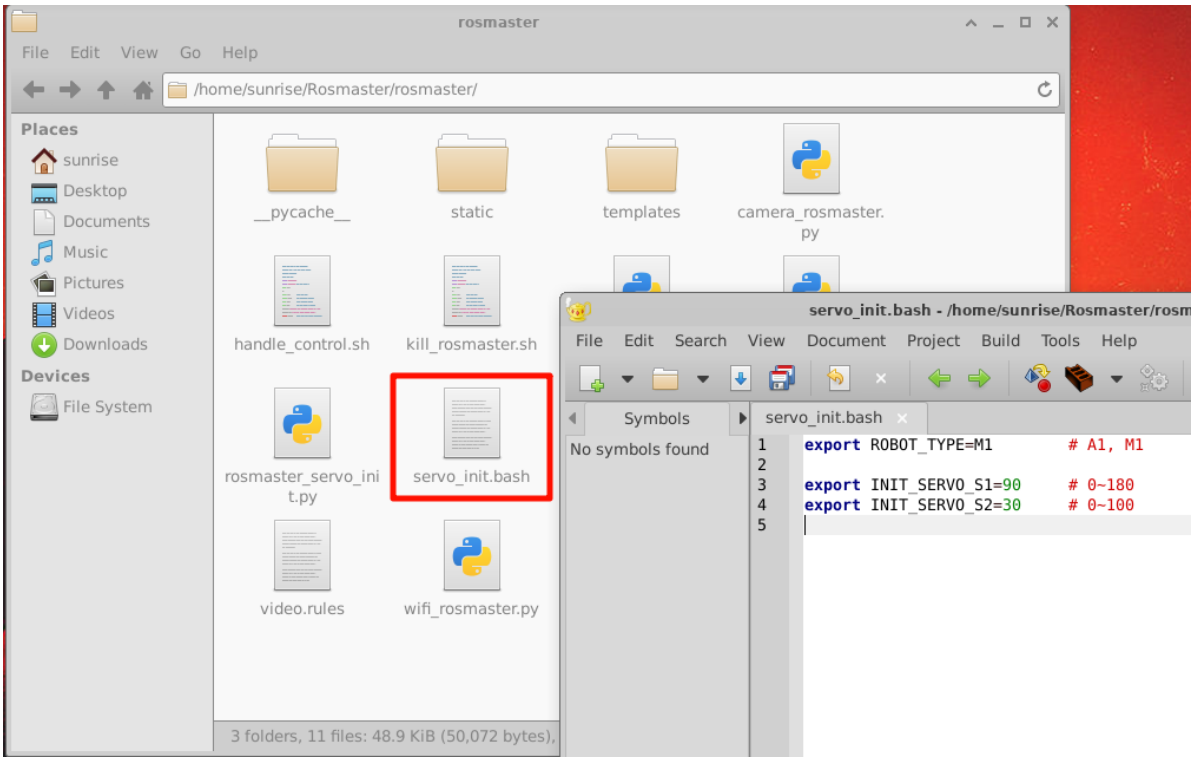


Save the file and exit,

This configuration will be applied to the `Boot Auto-start Handle Control Program`

- **RDK X5 Users:**

You can modify the parameters in `/home/sunrise/Rosmater/rosmaster/servo_init.bash`.



This configuration will be applied to the `Servo Initial Position Program` and `Boot Auto-start Handle Control Program`

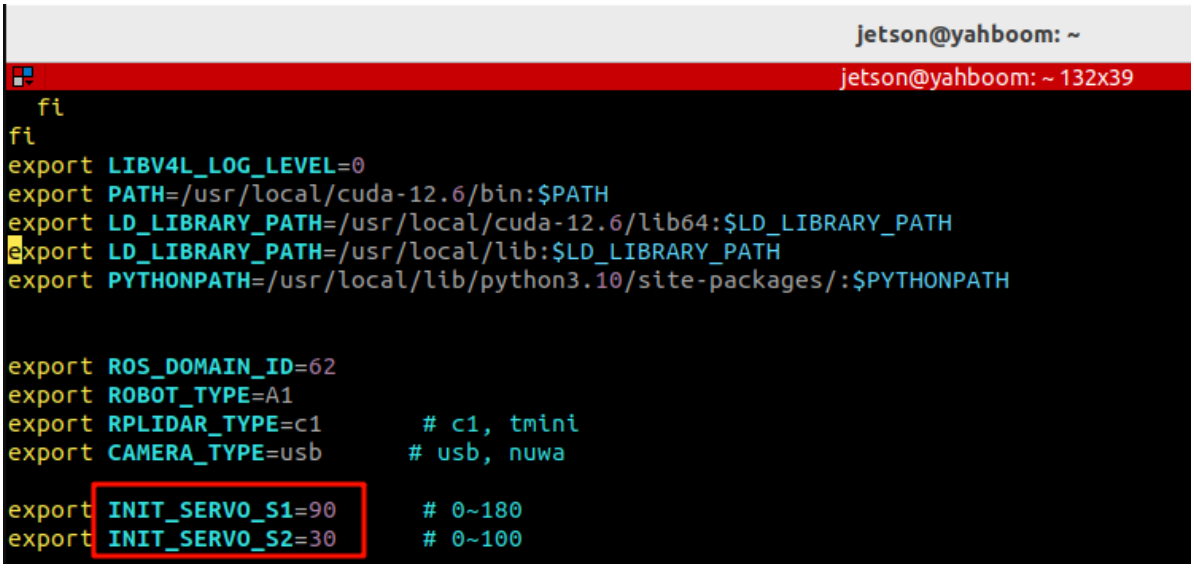
2.2 Vision Case Servo Initial Values

Most visual tracking/following cases will set the servo to an initial value when starting. This is done by retrieving the preset servo angle from environment variables for reset.

Modification method:

- **ORIN Users:**

```
sudo vim ~/.bashrc
```



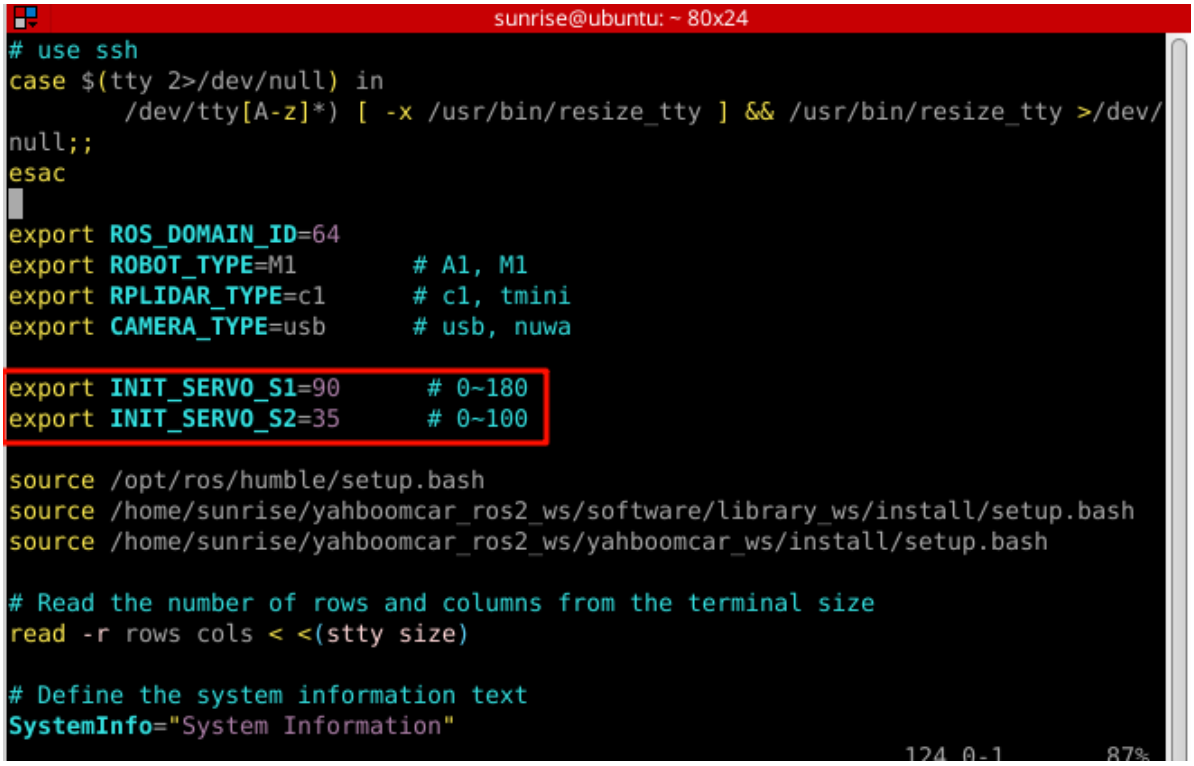
- **Pi5/Jetson Nano Users:**

After entering Docker, **(if you don't understand the operation steps, please refer to the tutorial [4. Enter Docker (Jetson-Nano and Raspberry Pi 5)] in this chapter)**

```
sudo vim ~/.bashrc
```

- **RDKX5 Users:**

```
sudo vim ~/.bashrc
```



Enter :wq to save the file and exit,

This configuration will be applied to `Visual Tracking/Following Cases`