9. Visual Inspection -OpenCV

1. Program function description

After the program starts, the car will read the set HSV value and automatically follow the path line of the corresponding color.

The [L1] button on the handle locks/turns on the car's motion control. When motion control is enabled, the function is locked; This function can be turned on when the motion control is locked.

3. Program reference path

After SSH connection car, the function source code is located in,

```
/userdata/yahboomcar_ws/src/yahboomcar_linefollower/yahboomcar_linefollower/line
follower.py
```

4. The program starts

4.1. Modify the HSV value

After SSH connects to the car, the terminal runs,

```
sudo vim
/userdata/yahboomcar_ws/src/yahboomcar_linefollower/yahboomcar_linefollower/Line
HSV.txt
```

Enter a range of HSV values in the format:

```
H_min,S_min,V_min,H_max,S_max,V_max
```

For example, enter the range of the black line:

```
90,0,0,180,255,100
~
~
~
~
~
~
~
~
~
~
~
</LineHSV.txt" [noeol] 1L, 18C          1,1          All
```

Save and exit.

4.2. Start the patrol

Adjust the Angle of the MIPI camera so that it can recognize the path lines and the background is not cluttered.

After SSH connects to the car, the terminal runs,

```
ros2 launch yahboomcar_linefollower linefollower_launch.py
```

You can see that the car can follow the black path line.

You can change the HSV to a yellow range:

```
26,43,46,34,255,255
~
~
~
~
~
~
~
~
~
~
~
~
<follower/LineHSV.txt" 1L, 20C              1,1          All
```

Then the car can follow the yellow path line.