0、Instructions before use

Gemini2 is a camera of UVC device type. Therefore, after running the launch command, there may be a problem of using usb_cam to drive the camera again or opencv to open the video device. Here, you need to **replug** the camera once, and then use usb_cam Or opencv to use the camera. Another point is that the device number of the camera may not be fixed and unique, and the video device number will change after re-plugging, which will affect the later drive of the camera through usb_cam or opencv. Therefore, if the usb_cam or opencv camera fails to start after plugging and unplugging, you need to re-query the video device number. Some motherboards have more than one, so you need to test each video device number until you find the correct device number. Video device number query can use the following command,

```
ll /dev/video*
```


Take me here as an example, I have 6 video device numbers here, so I need to test all six, how to test it? You can refer to the following methods

- To modify the content of the usb-camg function package, enter the following command,

```
sudo vim /opt/ros/melodic/share/usb_cam/launch/usb_cam-test.launch
```


Press【i】to enter edit mode, modify the number in /dev/video4 to /dev/video1 or other numbers, then press【Esc】to exit edit mode, press【shirt+:】, input【wq】, save and exit the document.

- Refresh environment variables, terminal input,

```
source ~/.bashrc
```

- Use usb-cam to drive the camera, terminal input,,

```
roslaunch usb_cam usb_cam-test.launch
```


If the picture appears normally, the current video device number is modified, so when using opencv to open the camera, it also needs to be modified synchronously, as shown below,

```
capture = cv.VideoCapture(4)    #The number here is the device number, modify it
according to the actual situation
```