

1. Instructions for using camera

1. Use opencv and usb_cam to drive camera error

After using the launch command in the Orbbec_SDK function package to drive the camera, you will find that the camera cannot be driven with usb_cam, and an error will be reported as shown in the figure below.

```
process[image_view-3]: started with pid [10766]
[ INFO] [1697529235.315517776]: Initializing nodelet with 4 worker threads.
[ INFO] [1697529235.405725041]: Using transport "raw"
[ INFO] [1697529235.425513328]: using default calibration URL
[ INFO] [1697529235.426148155]: camera calibration URL: file:///home/yahboom/.ros/camera_info/head_camera.yaml
[ WARN] [1697529235.426534453]: [head_camera] does not match name narrow_stereo in file /home/yahboom/.ros/camera_info/head_camera.yaml
[ INFO] [1697529235.426583374]: Starting 'head_camera' (/dev/video0) at 640x480 via mmap (yuyv) at 30 FPS
[ERROR] [1697529235.426640067]: Cannot identify '/dev/video0': 2, No such file or directory
[usb_cam-2] process has died [pid 10765, exit code 1, cmd /opt/ros/noetic/lib/usb_cam/usb_cam_node __name:=usb_cam __log:=/home/yahboom/.ros/log/51dd48e6-6cc2-11ee-b19d-65f5d1e636b5/usb_cam-2.log].
log file: /home/yahboom/.ros/log/51dd48e6-6cc2-11ee-b19d-65f5d1e636b5/usb_cam-2*.log
```

Solution: Re-plug the camera, and then use usb_cam to open the camera normally, including using opencv to open the camera. If the above error occurs, just re-plug it. As long as you use launch in Orbbec_SDK to drive the camera and before using opencv to drive the camera, you need to unplug it again.

2. Virtual machine case demonstration instructions

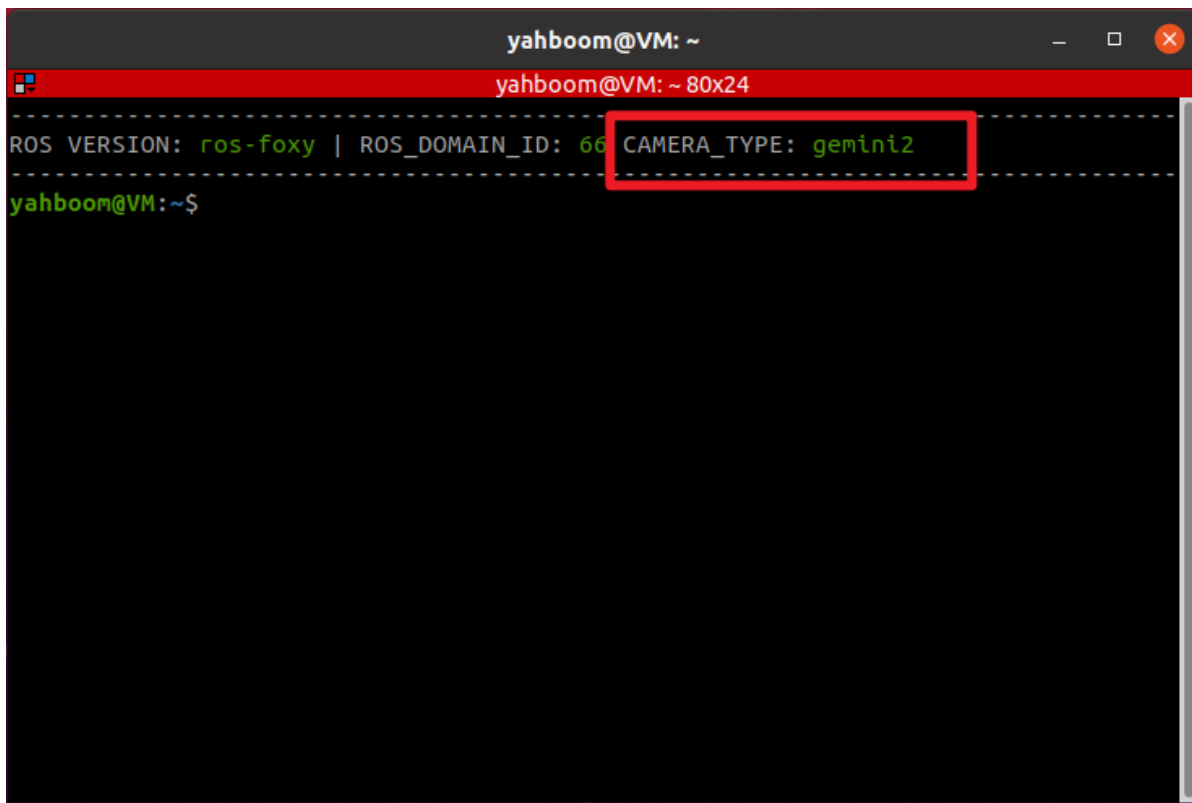
The cases in the virtual machine include SDKs for multiple cameras. Therefore, when matching the cases in the virtual machine experiment tutorial, you need to set the camera file of the car model through the ~/.bashrc file. You need to set [CAMERA_TYPE] to the purchased camera model. Assume When purchasing an astraproplus camera, you need to modify the value of [CAMERA_TYPE] to astraproplus. Terminal input,

```
sudo gedit ~/.bashrc
```

[CAMERA_TYPE] is set to gemoni2.

```
128 export CAMERA_TYPE=gemoni2
```

Exit after saving and restart a terminal. The terminal will print out the set camera type.

A terminal window titled 'yahboom@VM: ~' with a red title bar. The window shows the output of a command, displaying ROS environment variables: 'ROS VERSION: ros-foxy | ROS_DOMAIN_ID: 66 CAMERA_TYPE: gemini2'. The text 'CAMERA_TYPE: gemini2' is highlighted with a red rectangular box. Below the output, the prompt 'yahboom@VM: ~\$' is visible.

```
yahboom@VM: ~  
-----  
ROS VERSION: ros-foxy | ROS_DOMAIN_ID: 66 CAMERA_TYPE: gemini2  
-----  
yahboom@VM: ~$
```

3. Source code description

We provide two sets of source code, one is the source code with only the camera SDK, and the other is the code with the camera SDK and some demos in the tutorial.

OrbbecSDK_ROS2.tar.xz only contains the function package to drive the camera.

Orbbec_ws_src.tar.xz contains the function package to drive the camera and the function package to run the demo with the virtual machine.

yahboomcar_ros2_ws.zip is the basic function package of ros2.