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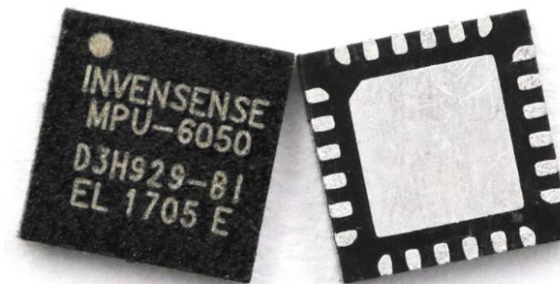
# ROS传感器介绍 讲解

东莞市微宏智能科技有限公司

# 一. ROS常用传感器



里程计传感器  
(odom)



姿态传感器  
(imu)



摄像头  
(image)



激光雷达  
(scan)

## 二. 激光雷达

### 2.1 实现的功能

- ①建图
- ②导航
- ③避障
- ④跟随

### 2.2 开启雷达

```
roslaunch rplidar_ros rplidar.launch
```

### 2.3 订阅雷达话题

```
/scan    sensor_msgs/LaserScan
```

Header	header
float32	angle_min
float32	angle_max
float32	angle_increment
float32	time_increment
float32	scan_time
float32	range_min
float32	range_max
float32[]	ranges
float32[]	intensities

## 三. 摄像头

### 3.1 实现的功能

- ①视觉巡线
- ②物体识别
- ③3D建图
- ④颜色跟踪

### 3.2 开启摄像头

```
roslaunch usb_cam usb_cam-test.launch  
roslaunch astra_camera astra.launch  
roslaunch astra_camera astra_pro.launch
```

### 3.3 订阅摄像头话题

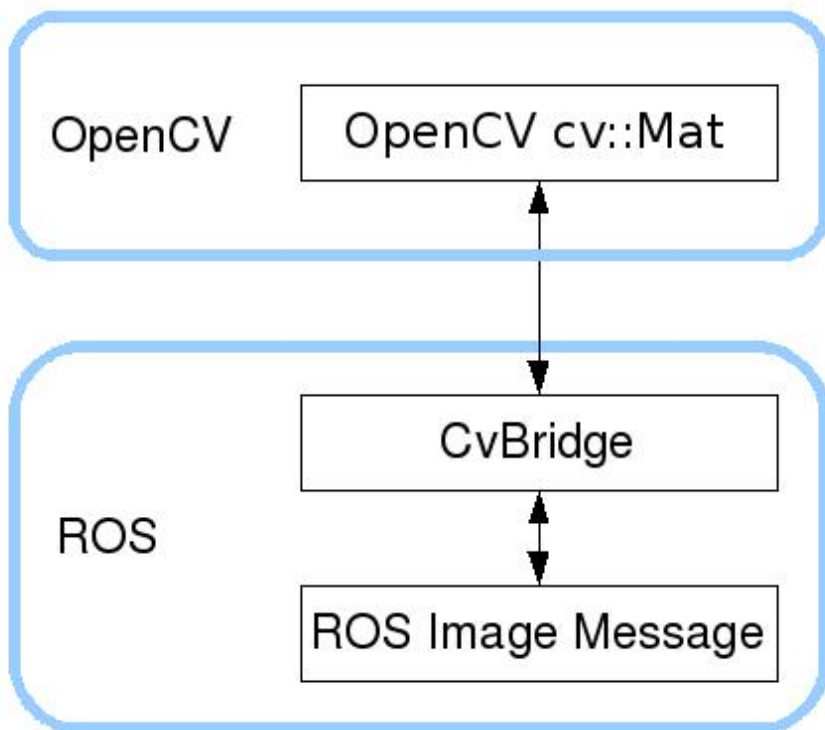
sensor\_msgs/Image

```
Header header  
uint32 height  
uint32 width  
string encoding  
uint8 is_bigendian  
uint32 step  
uint8[] data
```

sensor\_msgs/CompressedImage

```
Header header  
string format  
uint8[] data
```

### 3.4 CV::Bridge



`image.at<type>(i,j);` 取出灰度图像i行j列的点  
`image.at<type>(i,j) [k];` 取出彩色图像中i行j列k通道的颜色点

### 3.5 摄像头标定

话题名:

`/xxx/camera_info`

矫正文件路径:

`/home/wheeltec/.ros/camera_info`





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**THANK YOU**

感谢聆听，批评指导

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