A-LOAM compilation

1、Install dependencies

ROS(ubuntu 18.04 melodic)

Ceres solver

Pcl

2、Source code path

ALOM：

```
src/A-LOAM
```

Wanji 720 16-line radar driver：

```
src/vanjee_lidar_v2.4
```

Convert Wanji 720 data format to velodyne format data：

```
src/vanjee_to_velodyne
```

Save map package：

```
src/save_map
```

Save the map folder：(Note that you need to create a map folder under the workspace to save the map)

```
Workspace/map
```

Refer to the original data package for offline mapping

```
Workspace/data
```

3、compilation

Here we take Jetson nano as an example，The installation environment is ubuntu 18.04， ROS version is melodic。

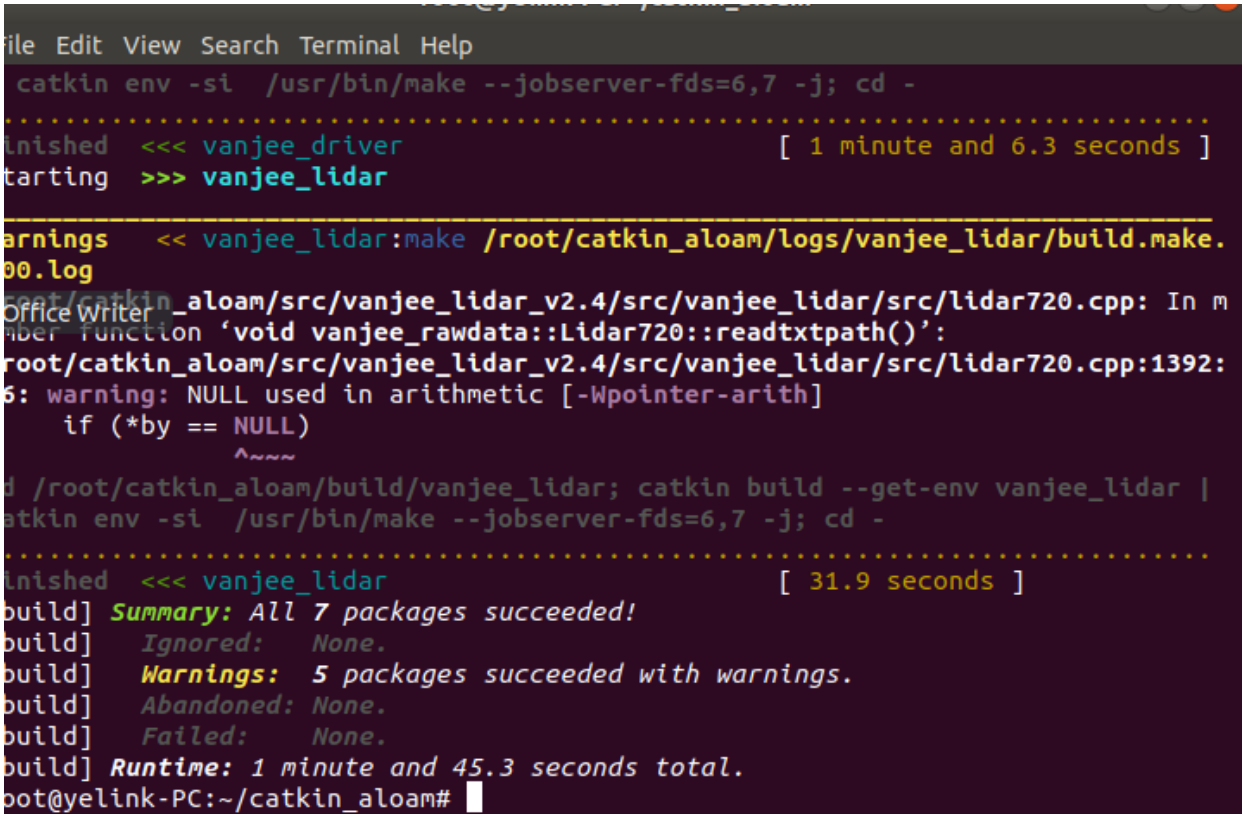
（This project was tested by Wanji engineers on Ubuntu 20.04. Since the original A-LOAM algorithm is running on ubuntu 16.04/18.04, some modifications have been made. If your environment belongs to ubuntu 16.04/18.04, you can follow the following steps to restore the original A-LOAM algorithm。）
Deployment on Jetson nano requires the following methods：

```
Replace camera_init in the 4 .cpp files in the ~/catkin_aloam/src/A-LOAM/src
directory with /camera_init;

Modify #include <opencv2/imgproc.hpp> in scanRegistration.cpp to #include
<opencv/cv.h>;

Modify cv::IMREAD_GRAYSCALE in kittiHelper.cpp to CV_LOAD_IMAGE_GRAYSCALE;

Comment out set(CMAKE_PREFIX_PATH, "/usr/inlcude/opencv4") in CMakeLists.txt, and
change find_package(OpenCV 4.0 QUIET) to find_package(OpenCV REQUIRED).
```

Enter the following instructions to compile:

```
cd ~/aloam
catkin build
```

Compilation completed effect:



If your ubuntu 20.04 prompts a large number of Eigen-related errors when compiling

```
Replace #include <eigen3/Eigen/Dense> in the 4 .cpp files in the
`~/catkin_aloam/src/A-LOAM/src` directory with #include <Eigen/Dense>;
```