Test of LIO-SAM

We used some dataset to test the slam performance of LIO-SAM. We selected some datasets with 16/32/64-line lidar data and imu data. The results are shown in the following figures.

The data used for the slam framework do need lidar data and high-frequency imu data.

1. The datasets provided by LIO-SAM.
There are many datasets provided by the author in the repository of LIO-SAM. We test all dataset and get good results. We take the west.bag as an example.

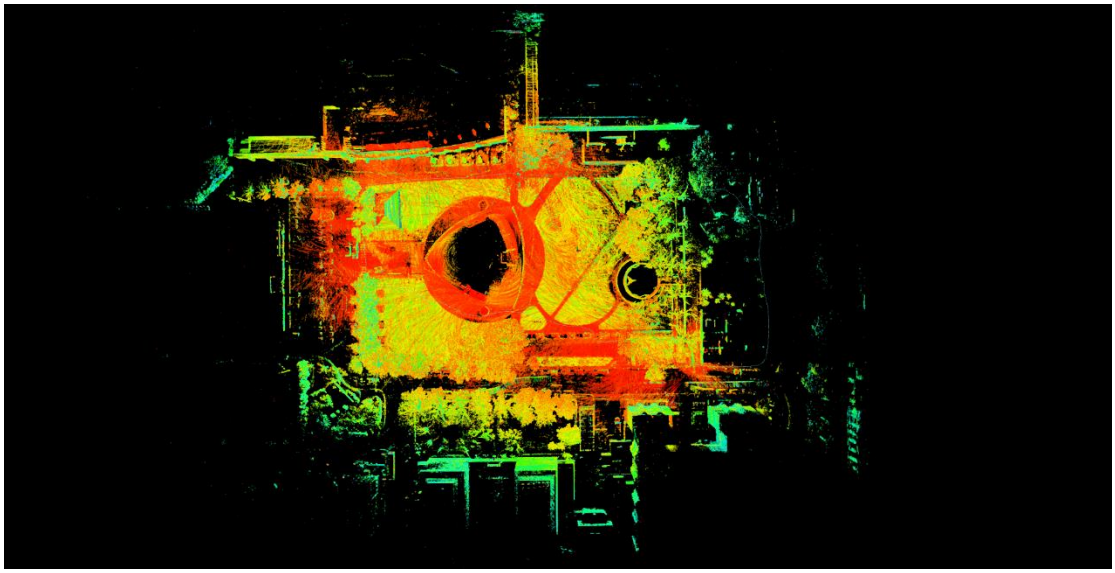


Figure1 The complete map

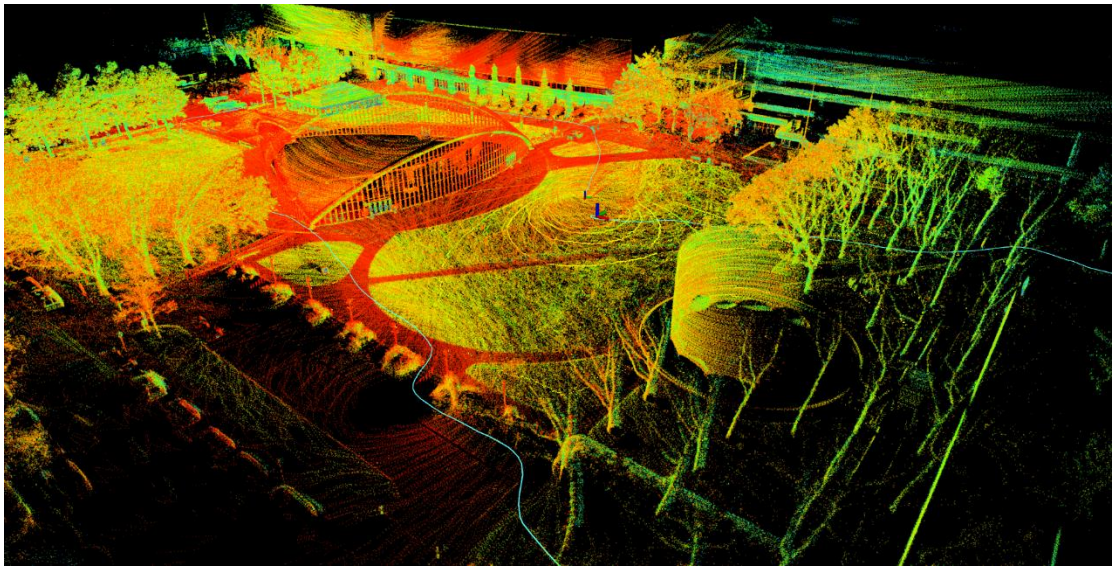
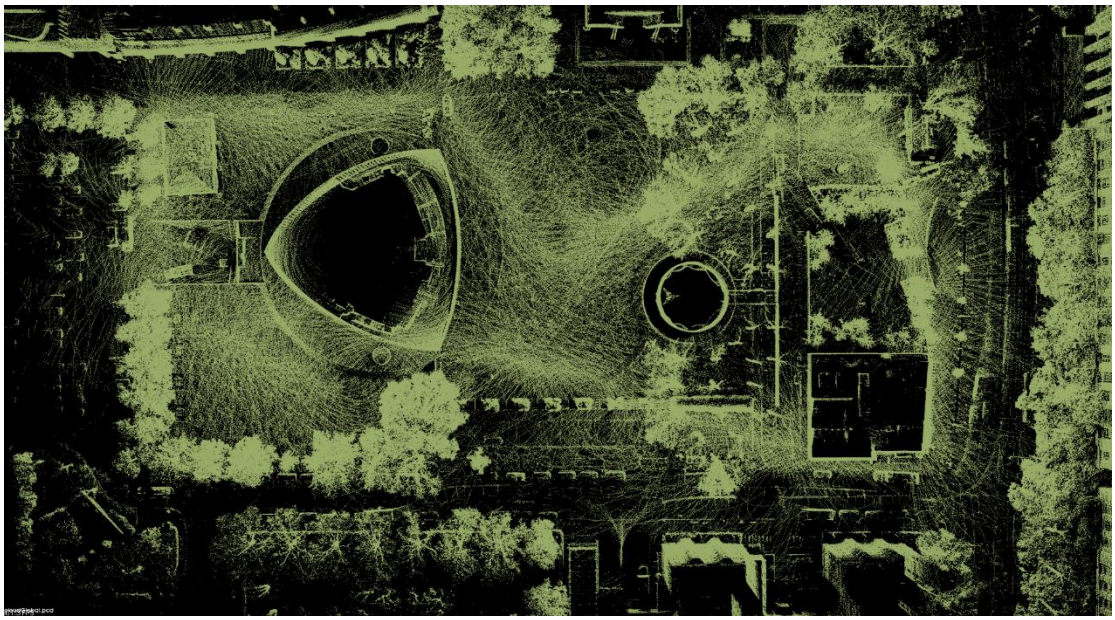


Figure 2 The detailed map



Figuer 3 The pointcloud map

2. We test the LIO-SAM using the KITTI dataset. We used a few of KITTI dataset and also got good results. We select one as an example which you can see in the following figures.

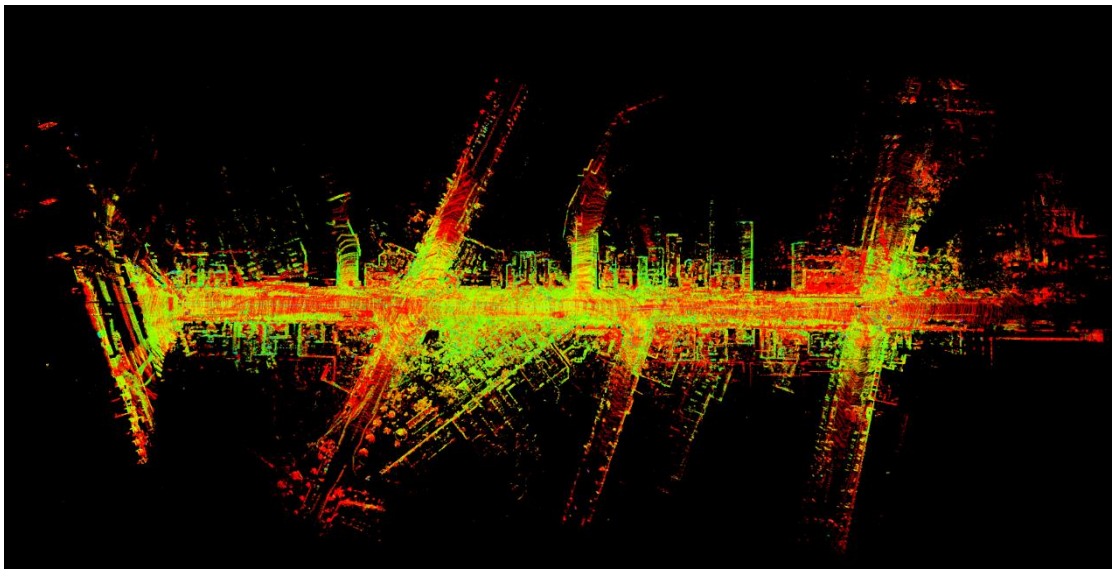


Figure 4 The complete map

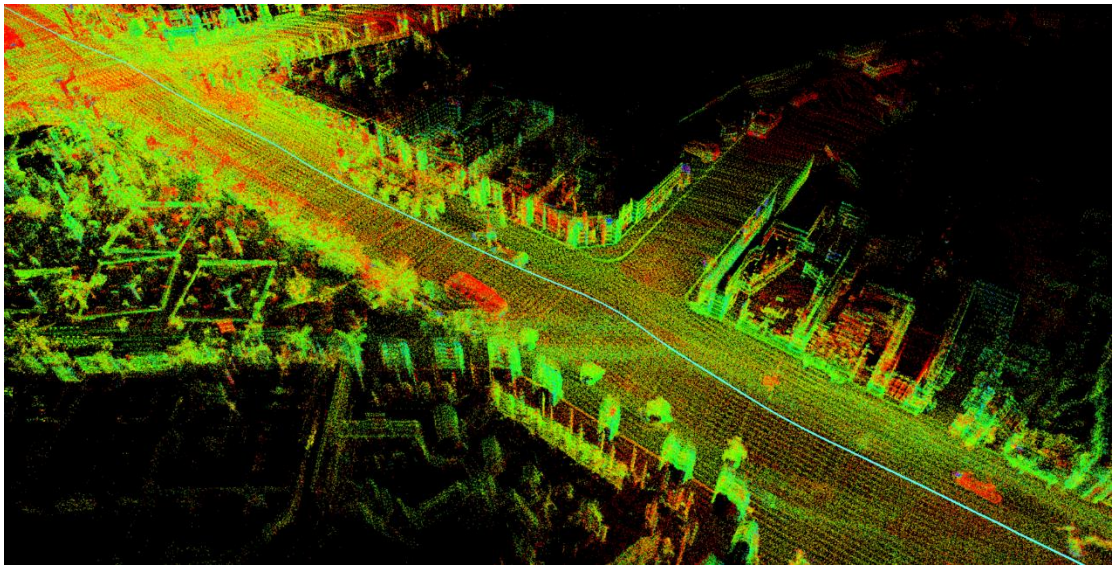


Figure 5 The detailed map

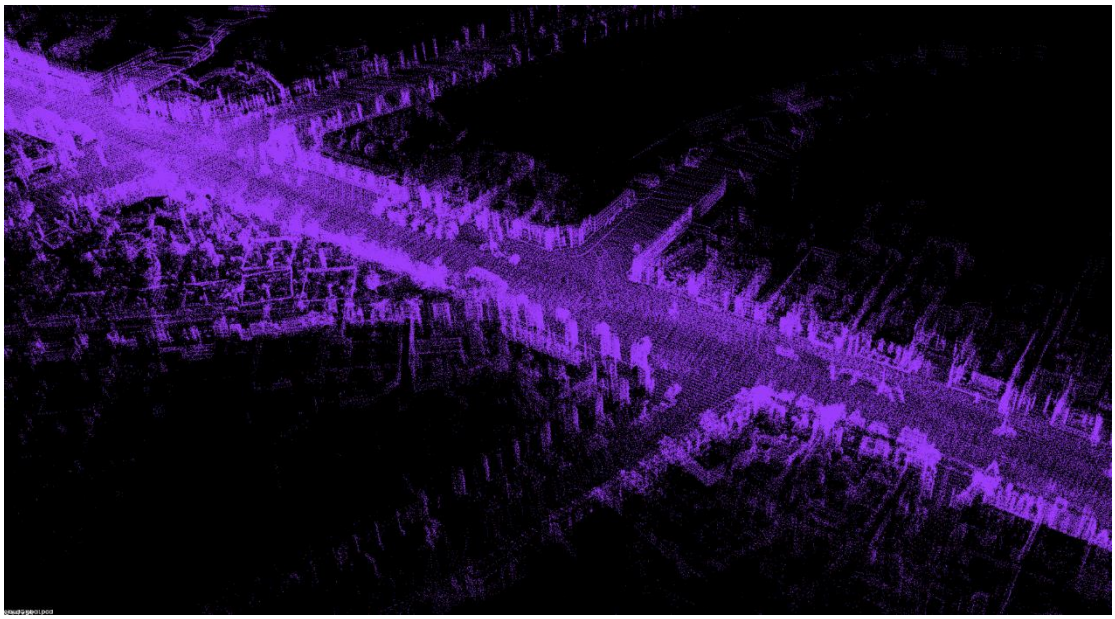


Figure 6 The pointcloud map

3. The third dataset we selected is the STEVENS dataset. The slam effect is not as good as others which has a little bit offsets. The reasons we think are that this dataset use a 16-line lidar and low frequency of imu for a long-time (2740s) slam.

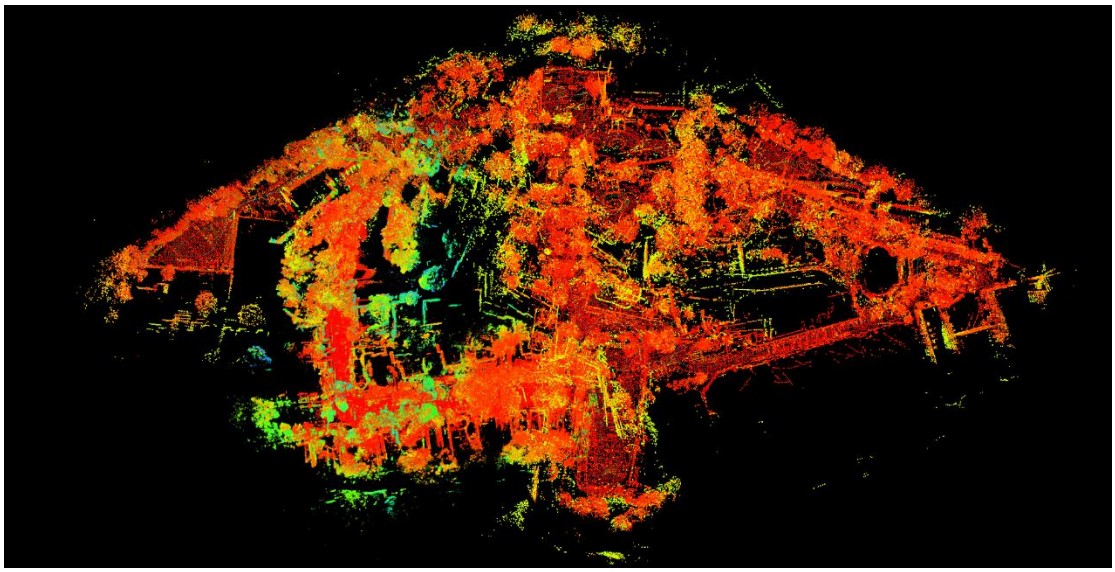


Figure 7 The complete map

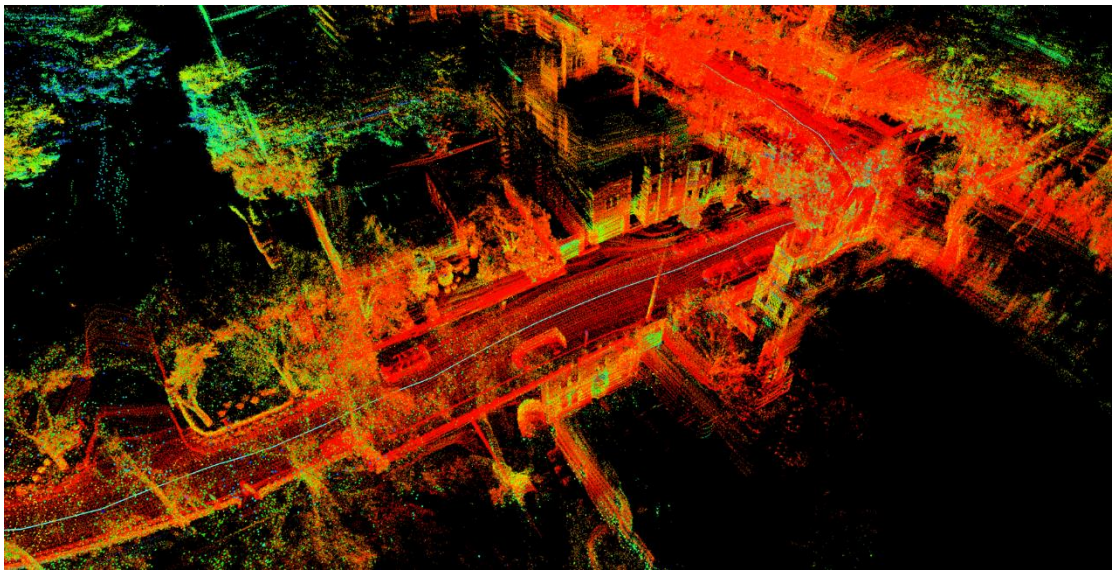


Figure 8 The detailed map

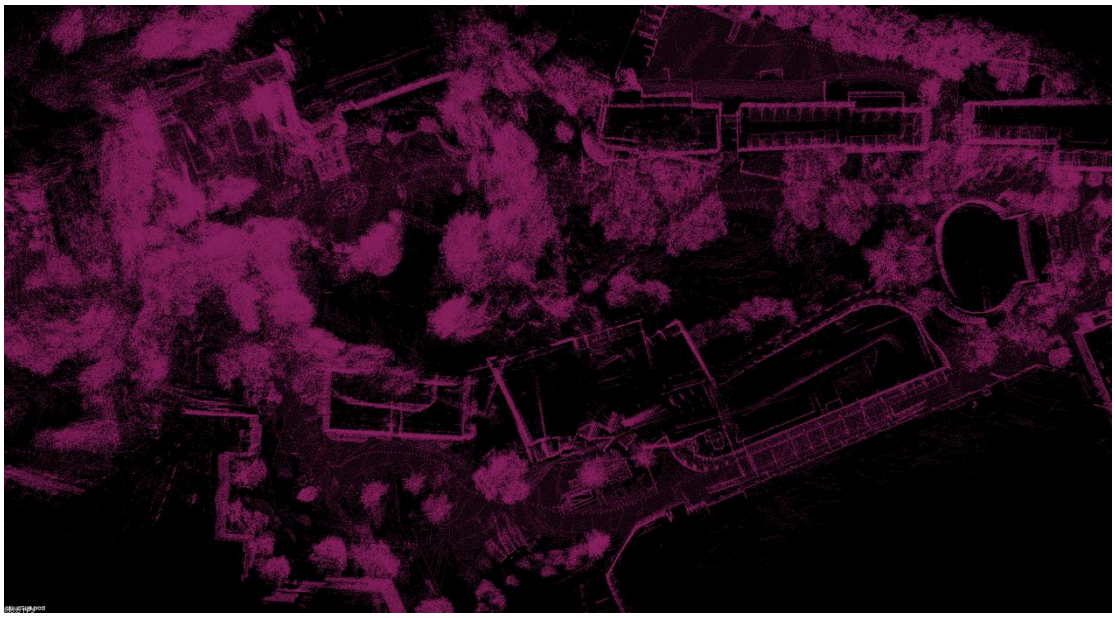


Figure 9 The pointcloud map

4. The last dataset is our dataset. There are two ways we used. The first way is making a rosbag file to test on the pc. The second way is using the robot to conduct real-time slam.
But we are sorry that there are some problems on our robot (the imu and lidar). We will fix them immediately and continue the rest of the tests.