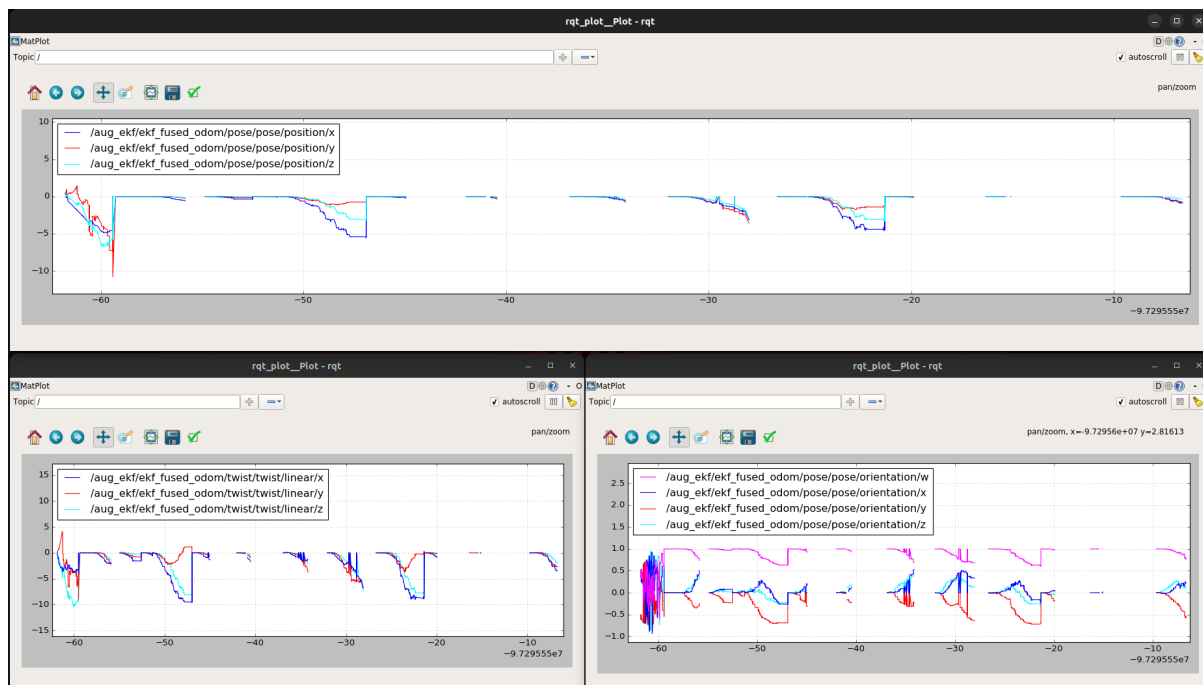
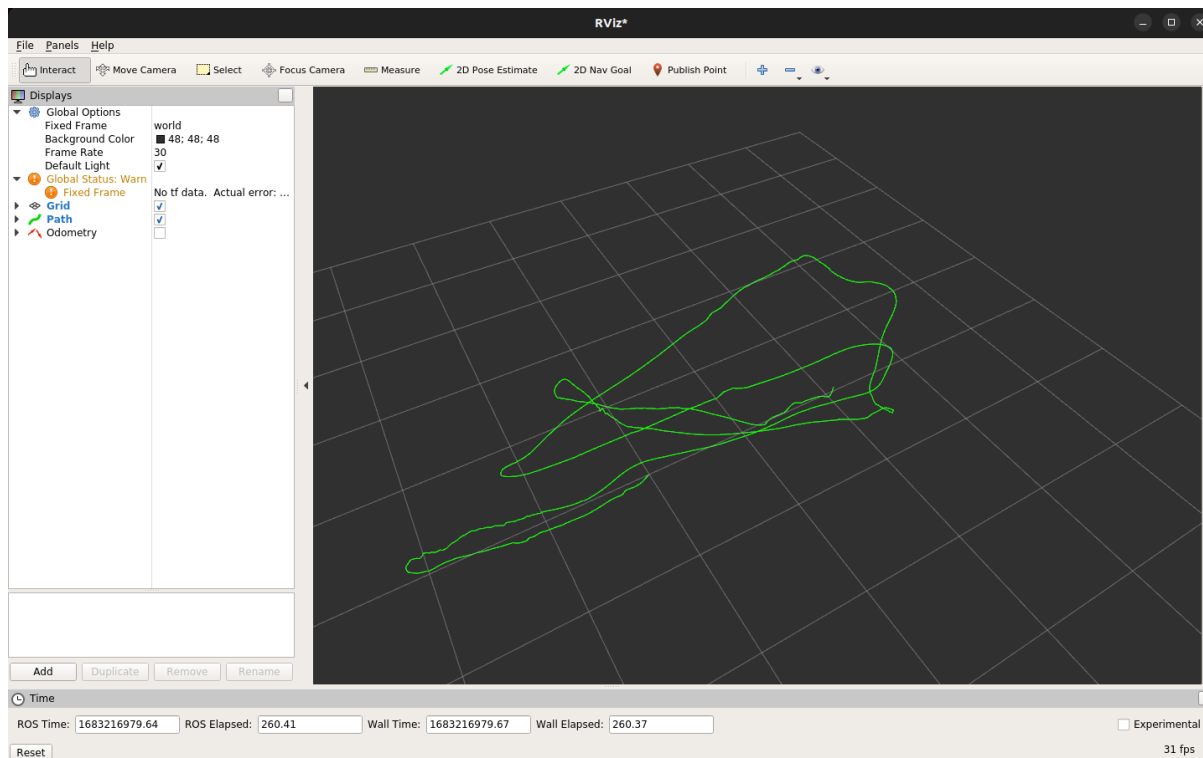


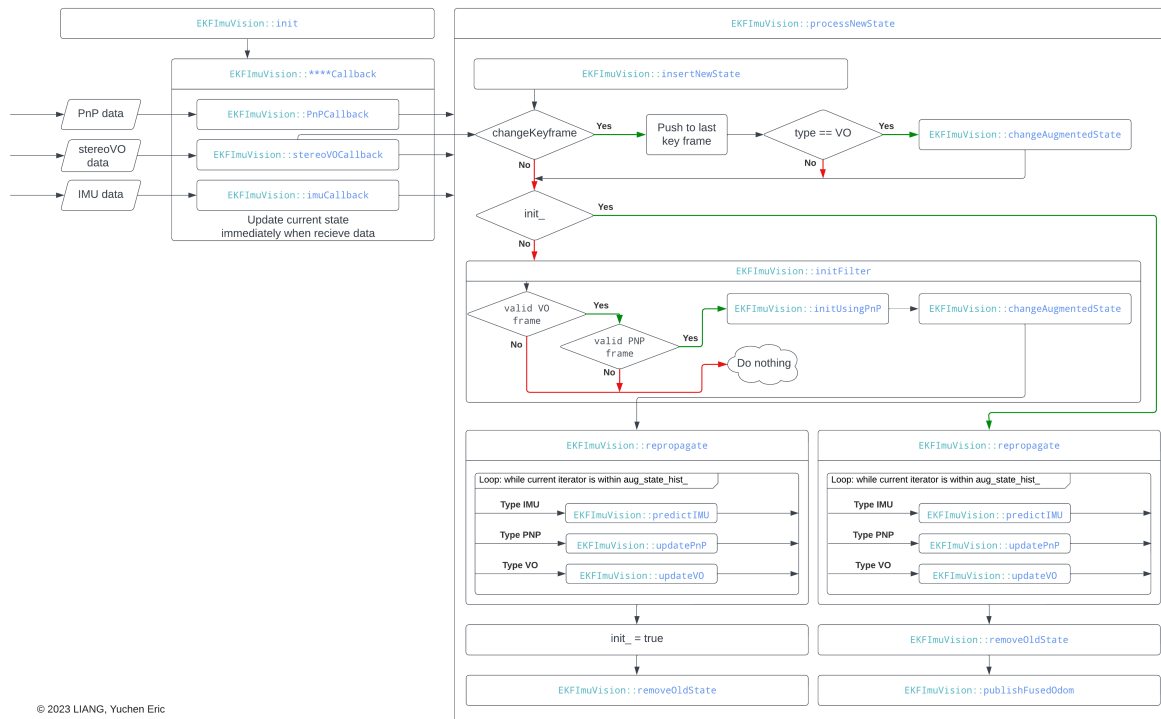
ELEC5660 Project 3 Phase 2 Report

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Figures plotted by rqt plot and rviz



Descriptions about your implementation



The structure of the code is shown in the flowcharts. The model is implemented based on the lecture notes. Some code is generate by Autograd from matlab. The calculation did not work, so don't bother looking at it.

others

Environment issues

- Ceres solver 1.14.0 is installed in the docker image. The installation followed <https://zhuanlan.zhihu.com/p/151675712>
- Files copied from previous assignment (tag_detector and stereo_vo_estimator)
- aruco-1.2.4 is also added to the src folder
- libdw is installed
- Type `auto` is used in the scripts, please use C++11 or higher version to compile the code

Bugs

Found a lot of bugs in stereoVO, list some that I can remember when writing this document:

- Bugs in stereoVO `Estimator::trackFeatureBetweenFrames`

- Not using parameters in stereoVO parameters.yaml
- `Estimator::updateLatestStates` not updating `latest_rel_P` and `latest_rel_Q`
- stereoVO node not publishing `rel_pose`, therefore `ekf_filter` can not get the data. Add `rel_pose_pub_.publish(rel_pose);`
- Too many can't remember