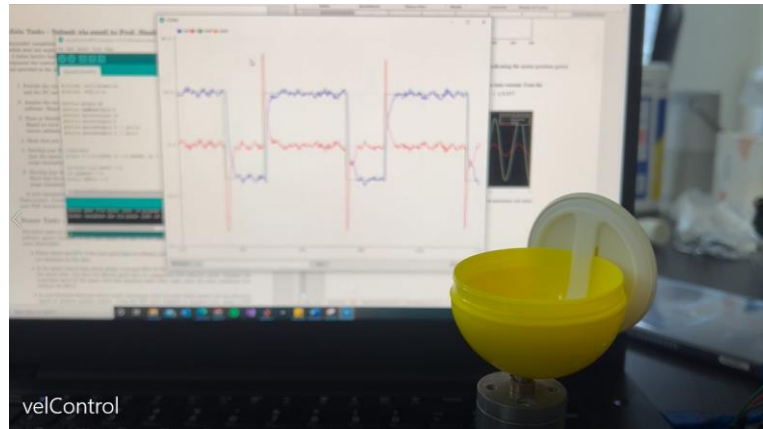Hi! This Jing.
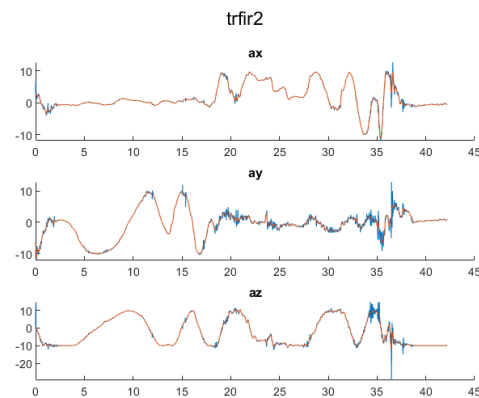
I put down some of my past projects and course works here, involving control, planning, perception and mechanics.

My portfolio GitHub Repo: https://github.com/wwtse/folioS
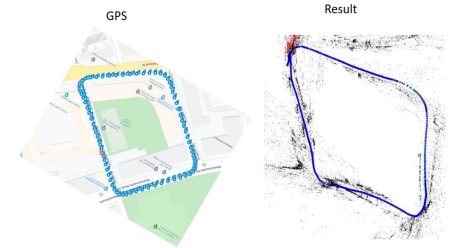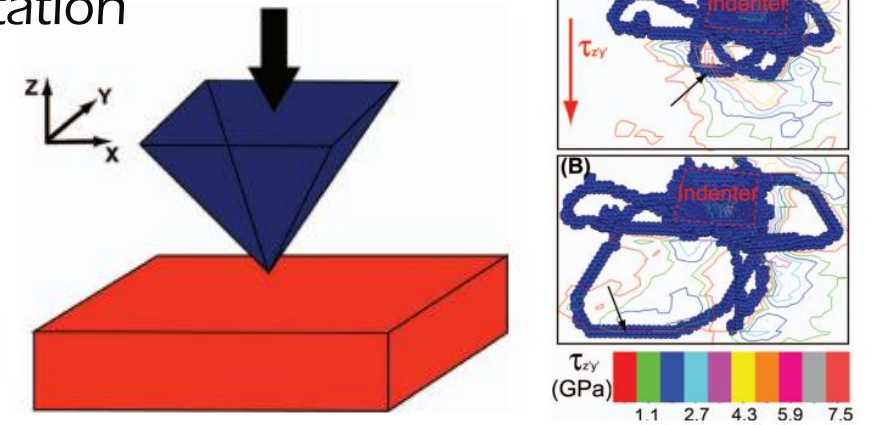
Projects

DCmotor control

SLAM

Nanoindentation
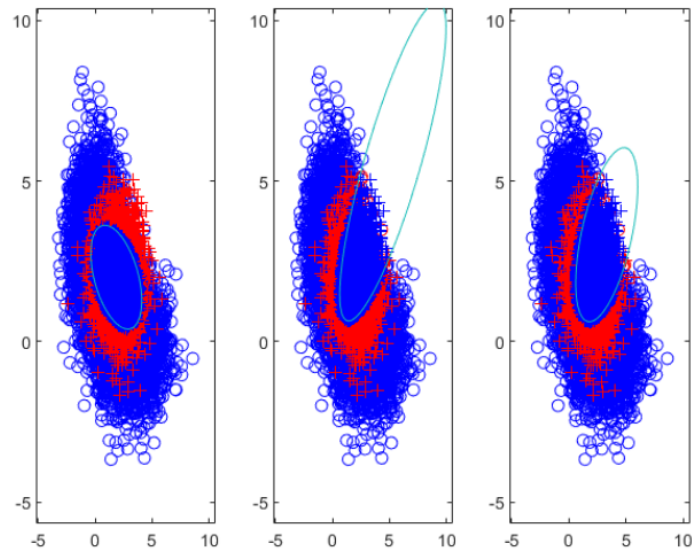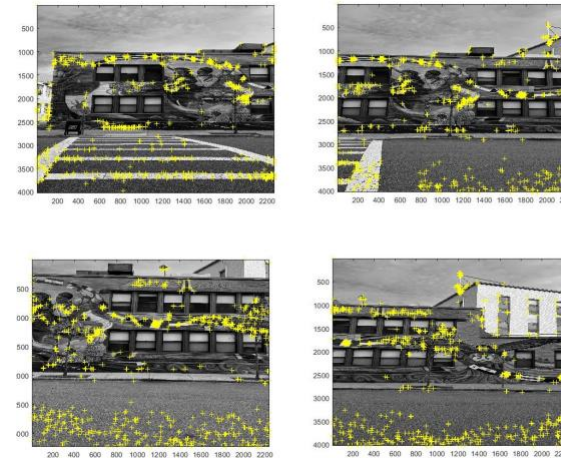Simulation

IMU filters

Course work

Figure 8: Validation Datasets with Decision Boundary by logistic-quadratic-function
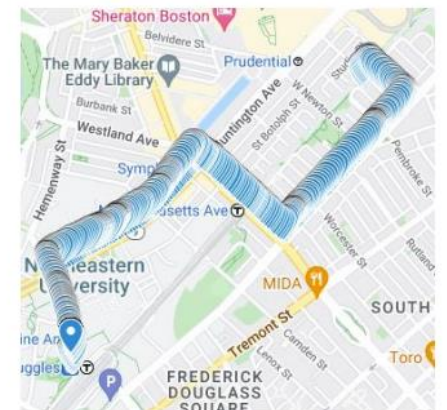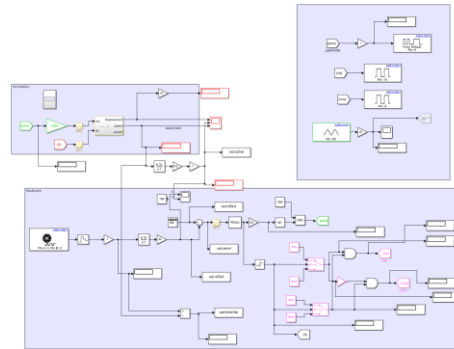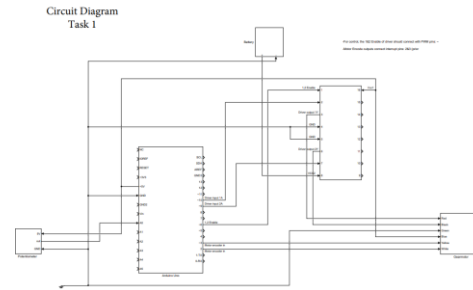
Machine Learning

Sensor and Navigation

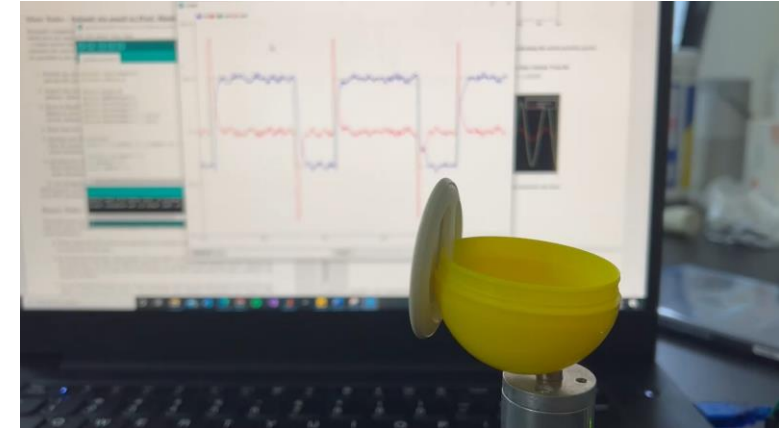Figure 1: data present in Google Map

DCmotor control

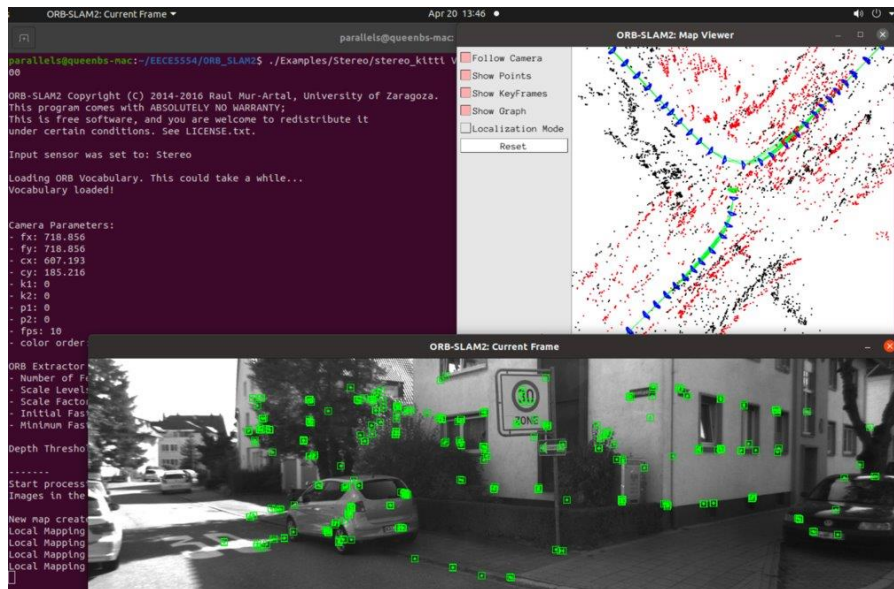Demonstrate motor speed and position controlling with Arduino coding and Simulink Real Time Target.

SLAM
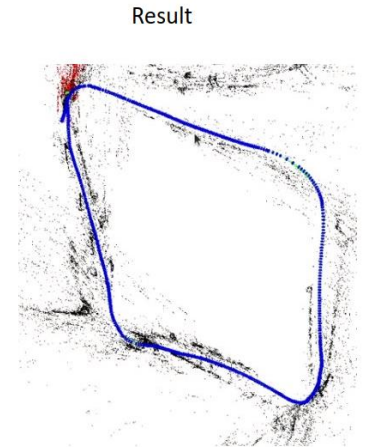
Map of sequence 00 of kitti
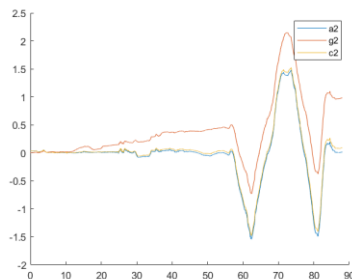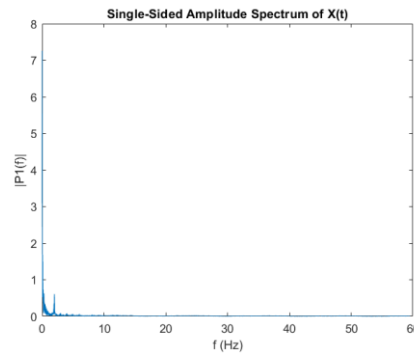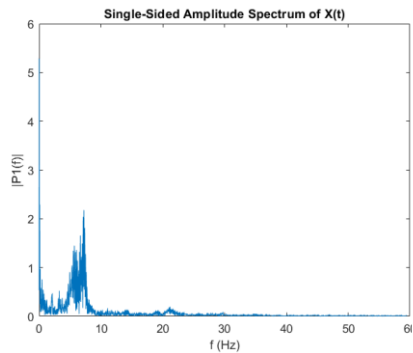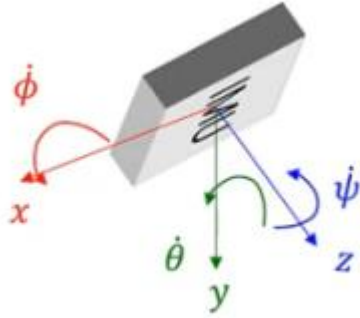
GPS

Result

SLAM using stereo cameras dataset (kitti and NUance) with ORB-SLAM2 and ROS.

IMU filters
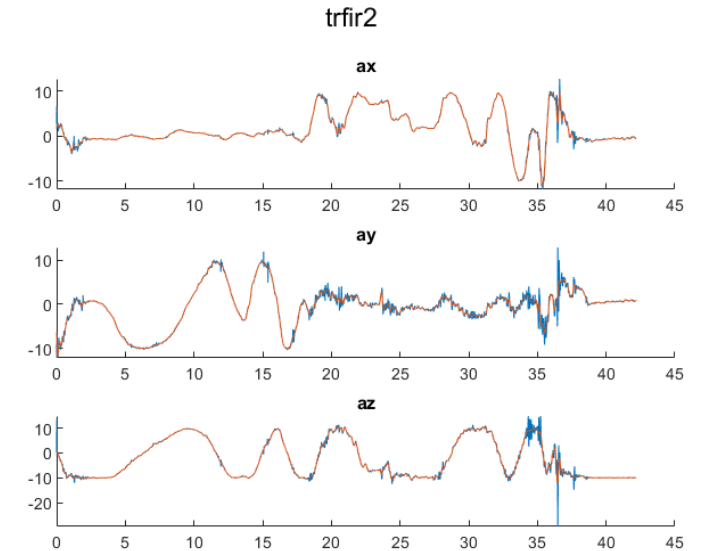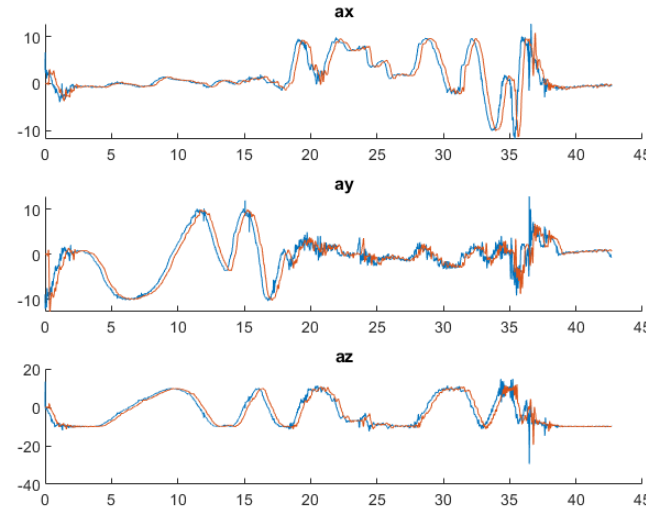
Filter IMU raw data with the combination of FIR, IIR and complementary filters.
PuTTY is used to log the signal.

Nanoindentation Simulation
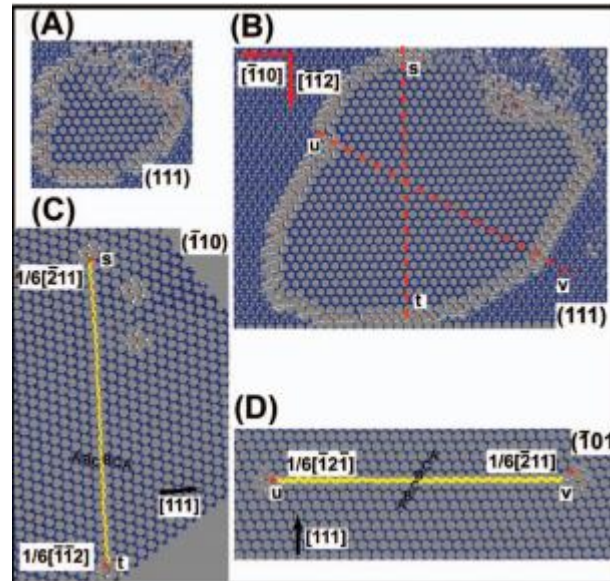
Bachelor Thesis

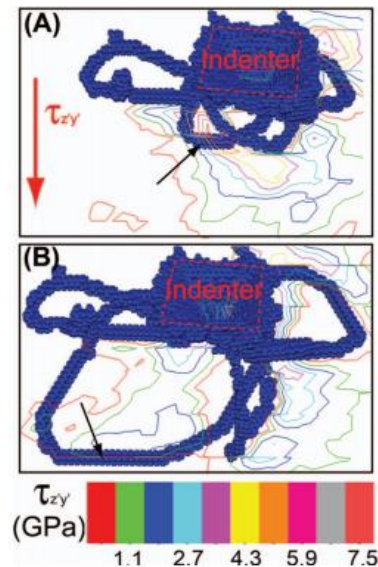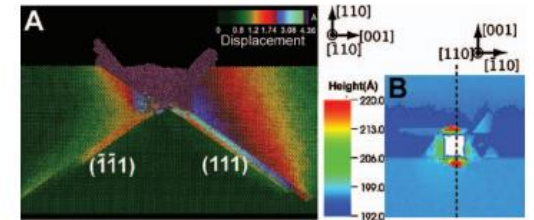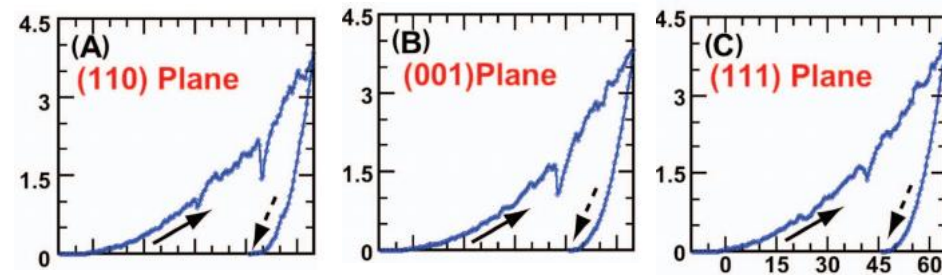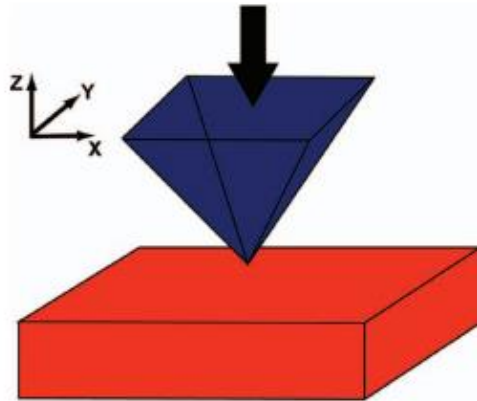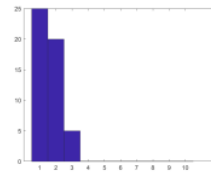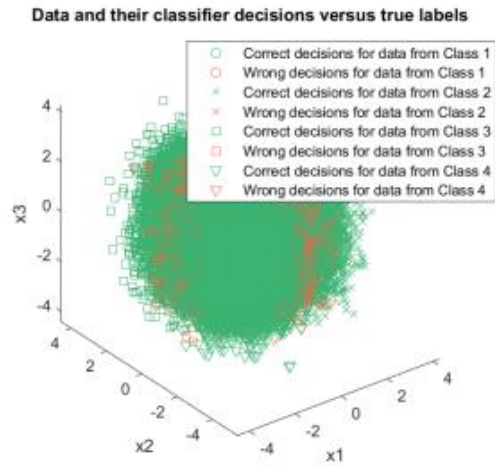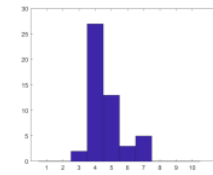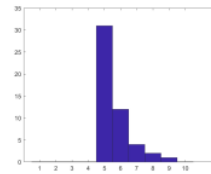Multimillion-atom nanoindentation simulation of crystalline silicon carbide with spherical cavity.
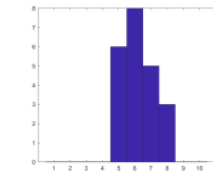
Machine Learning

Data and their classifier decisions versus true labels

(a) N=100   (b) N=1000   (c) N=10000   (d) N=100000
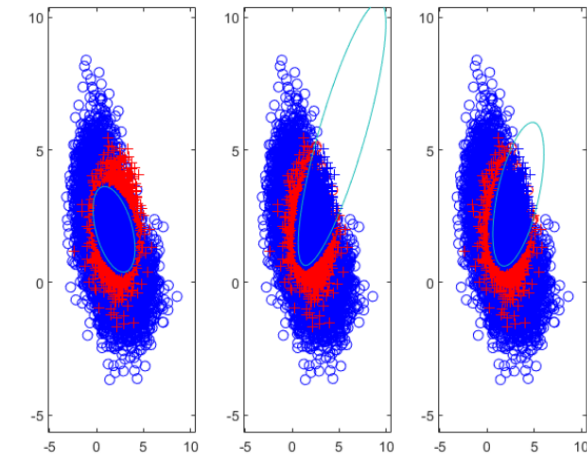Figure 8: kFold histogram

Figure 8: Validation Datasets with Decision Boundary by logistic-quadratic-function
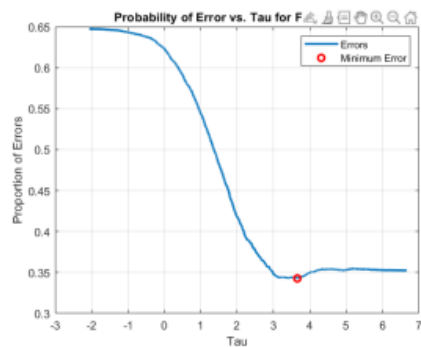

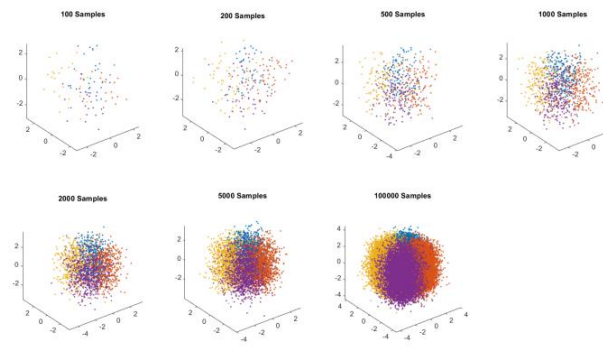Figure 6: Fisher LDA Probability of Error vs. Tau

Figure 1: Data Distribution

Used Fisher LDA, ERM, MLE, MAP, Bayesian estimation, BIC and K-fold cross-validation to approximate model parameters. Trained 2-layer MLP.

Sensor and Navigation

Figure 5: 5 images using for mosaic
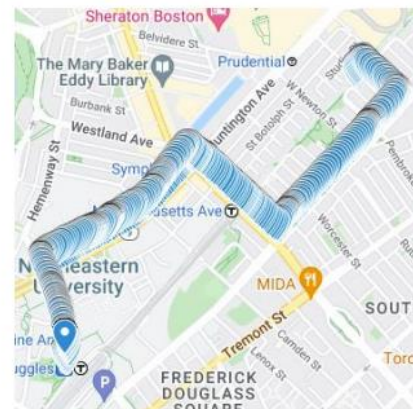

Figure 7: the panoramic mosaic of entire building
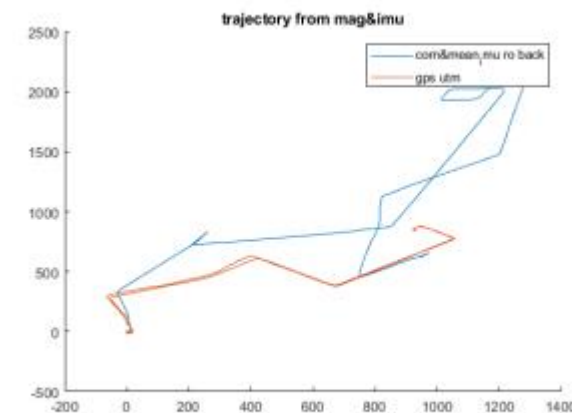

Figure 1: data present in Google Map

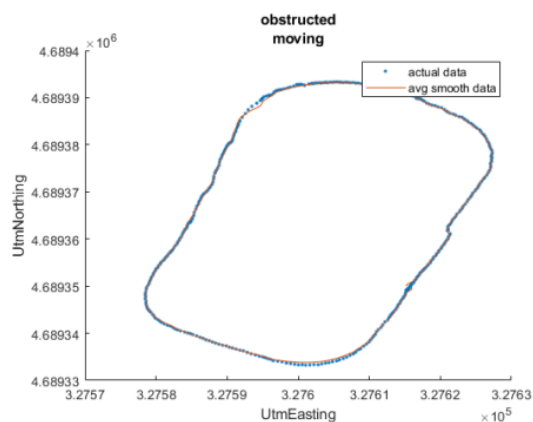Figure 10: trajectory from calculation and gps
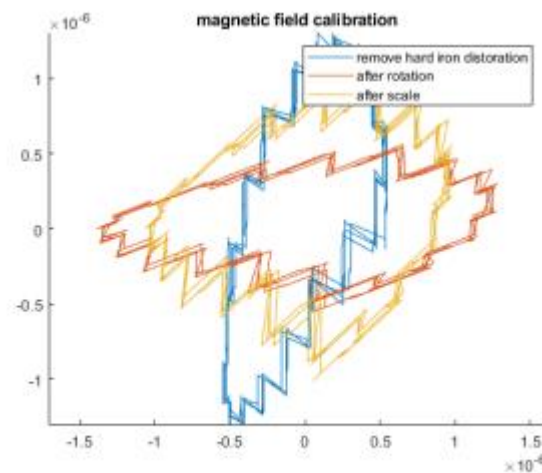

Figure9: Obstructed moving data

Figure 4:magnetometer calibration result

IMU, GNSS, camera, Lidar... All the sensors with ROS.