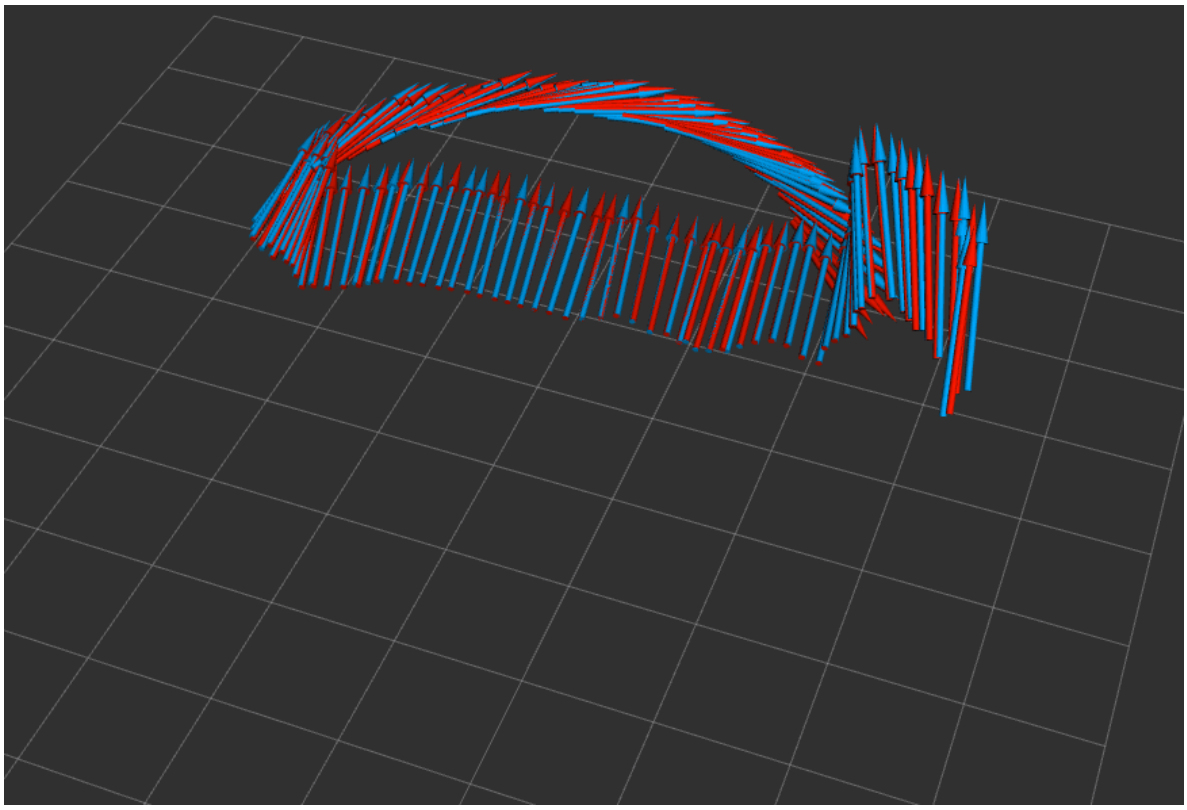
Project1 Phase3 Report

Jiawei Tang 20672550

Remainder

- Platform: Ubuntu 16.04 with Ros Kinetic
- Opencv: 3.3.1
- Eigen: 3.3

Figure



Statistics

I calculated the Frobenius norm of rotation matrix and 2 norm of translation vector obtained by solvePnP and SVD. The results are shown below:

Key Metrics	RMS Value
Rotation matrix difference F norm	0.0232805
Translation vector difference 2 norm	0.0384315

Analysis

1. Since we did not have ground trues, we cannot say which method is better scrupulously, however, solvePnP is a nonlinear optimization solver, the result obtained by it should outperform the one with SVD method. Some improvement can be obtained with Gauss-Newton method.
2. Some outliers should be removed in data. RANSAC can be used for this purpose.