Parsa Pourzargham

Neptun ID: LUM2CE

LO_RANSAC plane fitting

Overall process:

1-Reading the .xyz file to obtain points in 3d.

2-running the RANSAC algorithm on the point cloud to find the most dominant plane.

3-running the LO_LSQ for the local optimization.

4-writing the output file for visualization in meshlab.

Notes:

1- The output file is a .txt file with the (X Y Z R G B) format to distinguish the most dominant plane from the point cloud (the found plane is represented in yellow color and other points are represented in blue).
2- As the local optimization is supposed to decrease the error in the obtained plane, the two average errors are shown in a snapshot called **LSQ vs RANSAC error comparison.png**
3- the output xyzRGB files, as well as snapshots of the files in Meshlab can be found in file Output.rar