Pipe-Run Extraction and Reconstruction from Point Clouds
Supplementary Material

Rongqi Qiu[1], Qian-Yi Zhou[2], and Ulrich Neumann[1]

[1] University of Southern California
[2] Stanford University

Abstract. This document contains additional comparisons of our approach and commercial software [1] on large real-world datasets.

1 Additional Experiments

Section 2.3 of the paper introduced commercial software [1] as a state-of-the-art technique of pipe-run reconstruction. We purchased a license and used their automatical pipeline to reconstruct pipe-runs from the same dataset in Figure 11 of the paper. The comparison is shown in Figure 1 of this supplementary document. Our results significantly outperform that of [1] due to the following reasons: we introduce global similarities which increase the robustness of primitive detection under input scans with high-level noise and data incompleteness; our joint detection is more robust and faithful to the input data.

References

1. ClearEdge3D: Edgewise plant. http://www.clearedge3d.com/ (Dec 2012), http://www.clearedge3d.com/Products.aspx?show=EdgeWisePlant
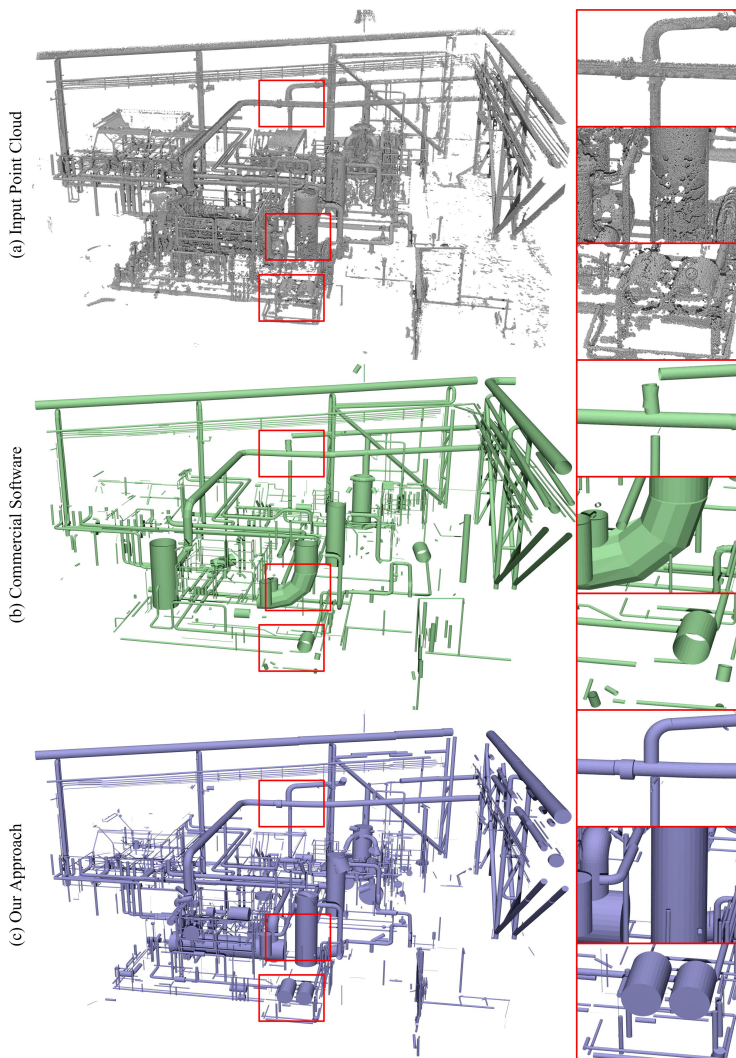
Fig. 1. Comparisons of pipe-run reconstruction by different methods: (a) input point cloud; (b) commercial software [1]; (c) our approach.