Supplementary Material for Adaptive Patch Deformation for Textureless-Resilient Multi-View Stereo

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In this supplementary material, we give more visualization results of our method. In Sec. 1, we show some zoom-in estimation results of the office in ETH3D to provide visual proof for the adaptive ability of our proposed APD. We also show some other qualitative comparison results for the ETH3D dataset. In Sec. 2, we present all the reconstructed point clouds of Tanks and Temples to further demonstrate the generalization ability of our method.

1. Results on ETH3D

Fig. 1 shows our reconstructed point cloud of the office. As we can see, by adaptively expanding the patch to get sufficient anchor pixels when doing PatchMatch (PM), the depths in textureless regions can be estimated correctly, resulting in a complete point cloud. Fig. 2 presents some other qualitative comparisons with the latest learning-based and traditional methods. For more qualitative comparisons, please refer to the ETH3D benchmark.

2. Results on Tanks and Temples

Results on Tanks and Temples are shown in Fig. 3 and Fig. 4. Our method can achieve higher completeness, especially when dealing with scenes containing lots of large-scale textureless regions such as the horse in the Intermediate set and the auditorium in the Advanced set.

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Figure 1. Our point cloud of the office and some zoom-in results.



Figure 2. Qualitative comparisons with the latest learning-based and traditional methods on ETH3D.



Figure 3. Reconstructed point clouds for the Intermediate set of Tanks and Temples.

Auditorium



Ballroom



Courtroom







Figure 4. Reconstructed point clouds for the Advanced set of Tanks and Temples.