Supplementary material for "Neural-Pull: Learning Signed Distance Functions from Point Clouds by Learning to Pull Space onto Surfaces"

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1. Network Architectures

We employ a network that is modified based on OccNet. We replace the Resblock used in OccNet by simple fully connected layers to simplify the OccNet, which highlights the advantage of our method. We leverage the ReLU activation function after each layer, and do not leverage any activation fucntion for the last layer.

2. More Surface Reconstruction

Under ShapeNet. We present more surface reconstruction in this section. We randomly select more shapes in the test set in each of Airplane, Tables, and Chair classes in Fig. 1, Fig. 2, and Fig. 3, respectively. We can see that our method can reconstruct surface with arbitrary topologies in high accuracy.

Under ABC. We show more results which are randomly selected under ABC dataset in Fig. 4, which demonstrates our ability of reconstructing very complex surfaces.

Under FAMOUS. Similarly, we also show more results which are randomly selected under FAMOUS dataset in Fig. 5, which further demonstrates our outperforming performance.

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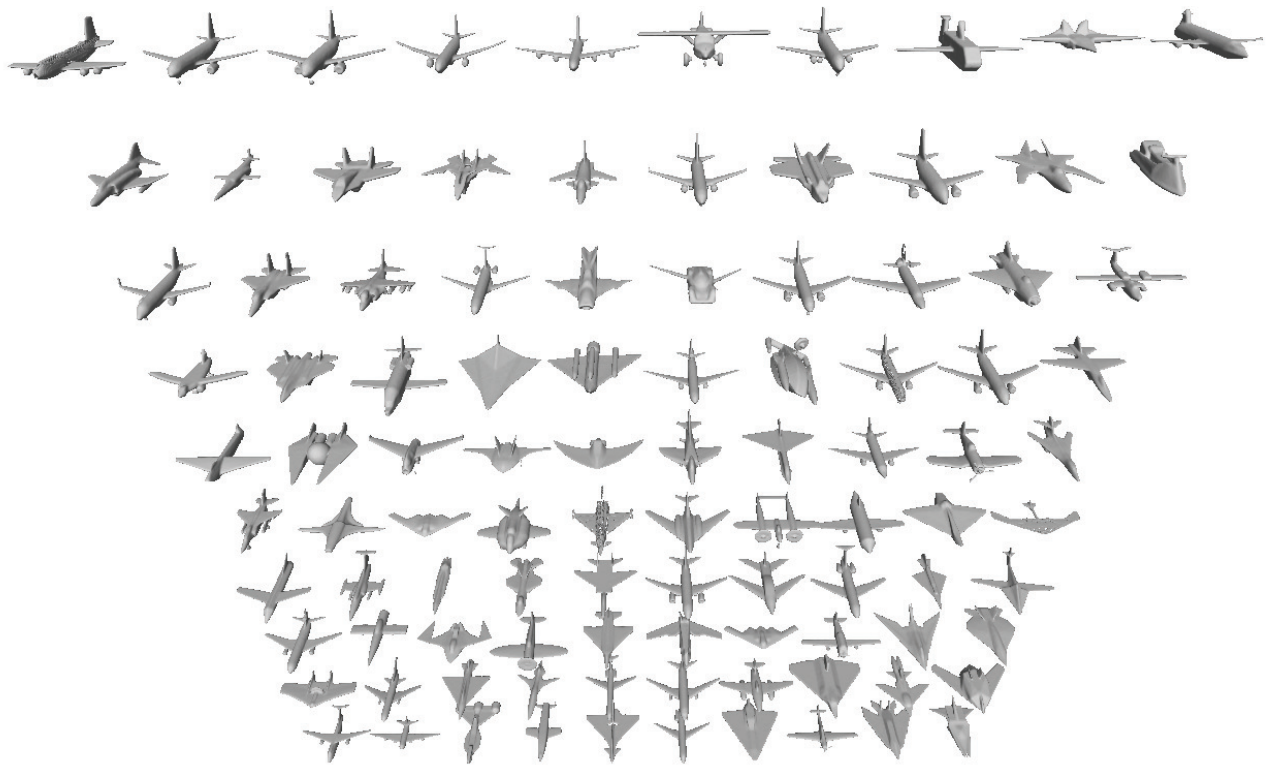

Figure 1. More surface reconstructions in Airplane class under ShapeNet.

Figure 2. More surface reconstructions in Chair class under ShapeNet.

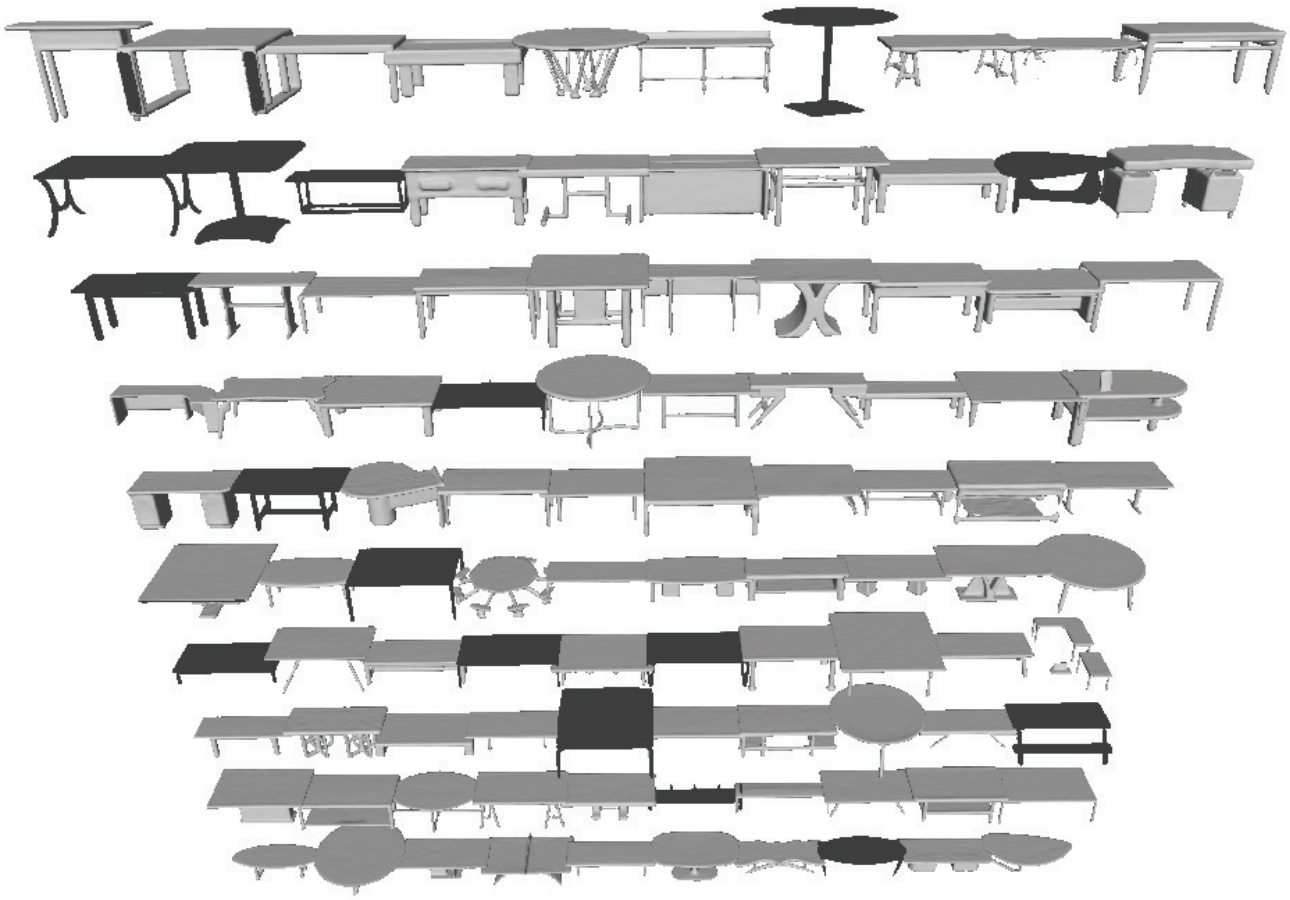

Figure 3. More surface reconstructions in Table class under ShapeNet.

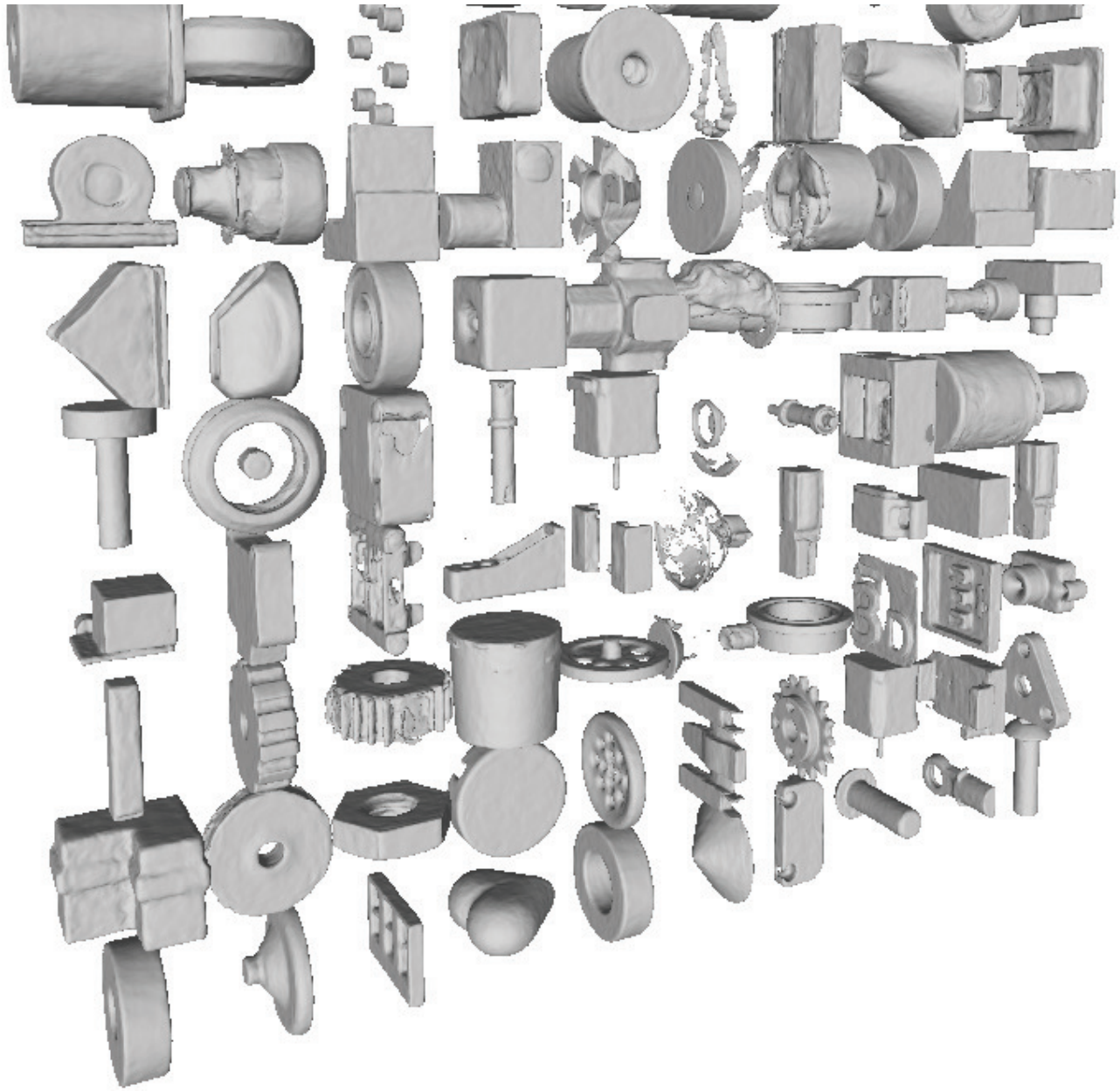

Figure 4. More surface reconstructions under ABC.

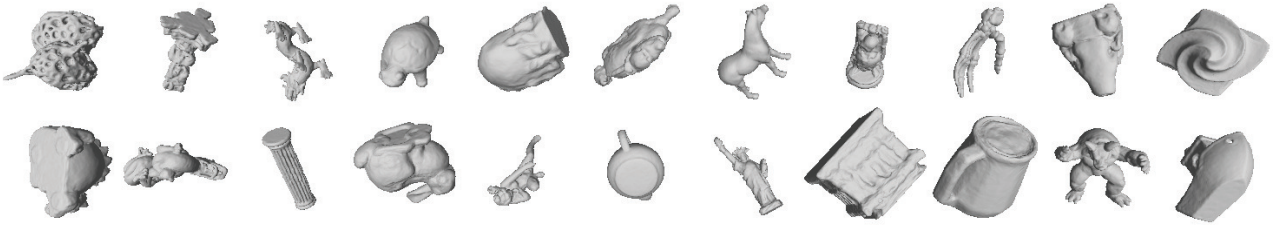

Figure 5. More surface reconstructions under FAMOUS.