Supplementary Materials of Pattern-Affinitive Propagation across Depth, Surface Normal and Semantic Segmentation

1. Detailed Network Architecture

We show the more detailed architecture in Fig. 1 (show depth estimation branch as an example). Note that the balancing weights for cross-task propagation are learned by the network. In experiments we build network which learns affinity matrix on 1/16, 1/8 and 1/4 input scale, respectively. The main difference among these three conditions is where to apply the upsampling blocks so as to make the feature maps match the target scale.

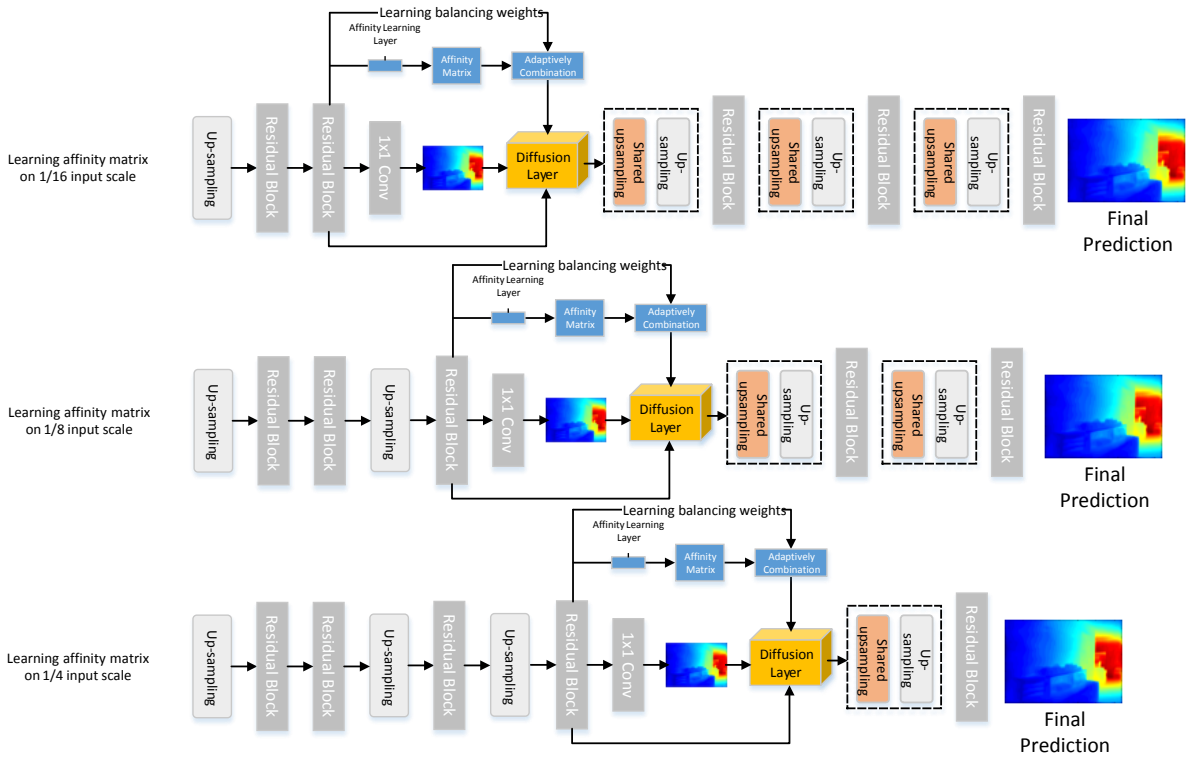

Figure 1. More detailed network architecture. We show the depth estimation branch as an example. The balancing weights for adaptively combining matrices are learned by the network. We learn affinity matrix respectively on three scales, and the only difference among these three conditions is where to apply upsampling block to upsample the feature maps so as to make them match the target scale.

2. More visual Results

Here we illustrate more visual results of our method. The results of NYUD-v2 dataset are shown in Fig. 2, and the predictions of SUN-RGBD dataset are shown in Fig. 3.

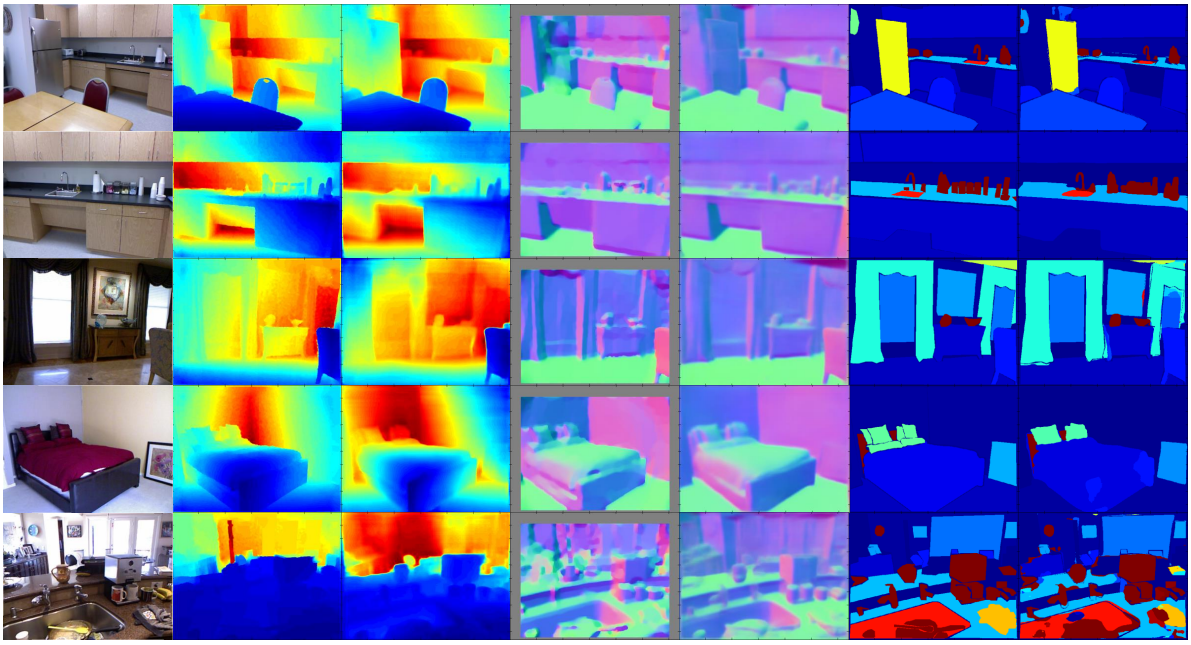

Figure 2. Predictions of our method on NYUDv2 dataset. We can see that our predictions are very close to the ground truth.

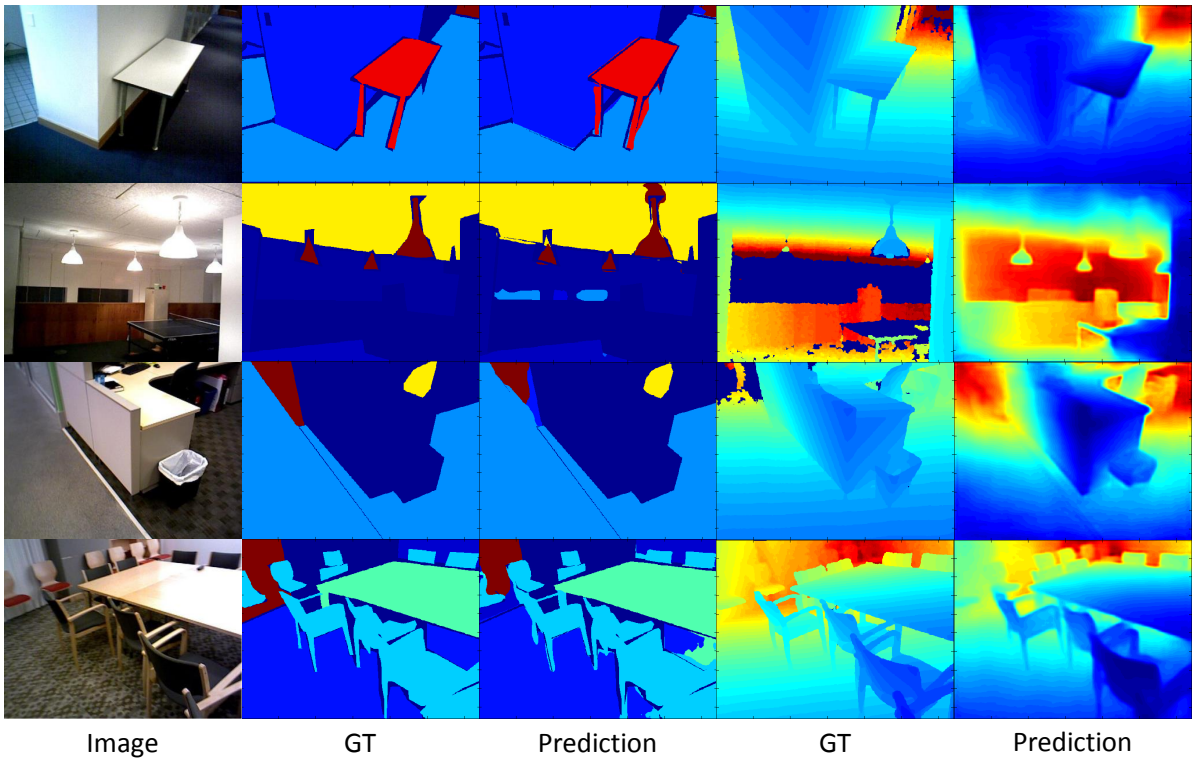

Figure 3. Predictions of our method on SUN RGBD dataset. We can see that our predictions are with high quality.