

Depth Interpolation via Smooth Surface Segmentation using Tangent Planes Based on the Superpixels of a Color Image

Supplemental Materials

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1. Results on other upsampling rate

We show results of our smooth surface segmentation when the upsampling rate is x1, x2, x4, x8, and x16.



Figure 1. Color images of the scenes, results of x1, results of x2, results of x4, results of x8, and results of x16 for (a)Art, (b)Books, (c)Dolls, and (d)Moebius.

2. Results on smaller threshold of connectivity

We show results of our interpolation method when the threshold of the smooth connectivity $c_{\text{smooth}}^{\text{th}}$ is small.

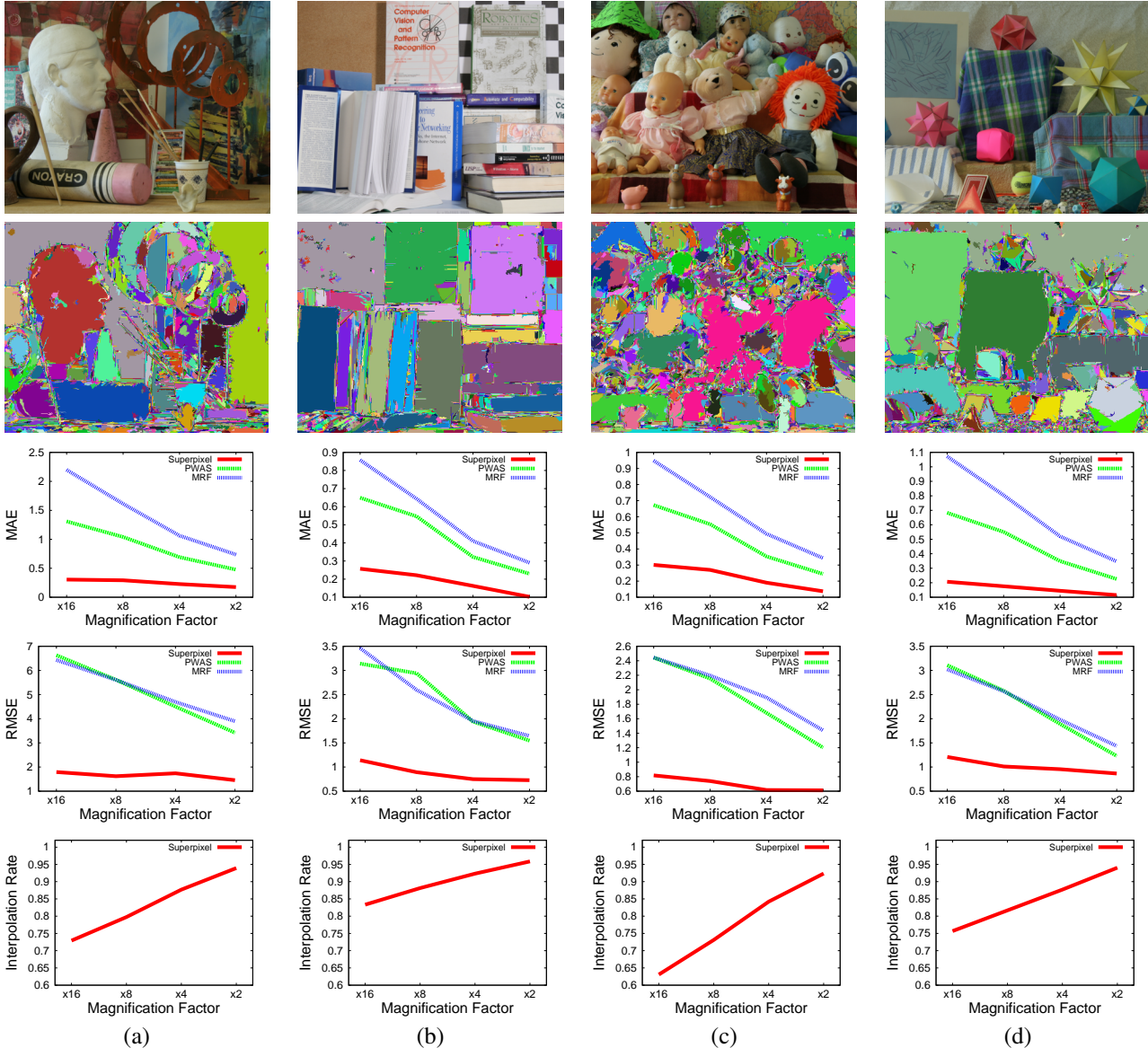


Figure 2. Experimental results on different parameters. Color images of the scenes, smooth surface segmentations, MAEs, RMSEs, and interpolation rates for (a)*Art*, (b)*Books*, (c)*Dolls*, and (d)*Moebius*. These images are generated using x16 upsampling. The errors and interpolation rates of our method are shown as solid red lines.

w_{th}	θ_{th}	$c_{\text{smooth}}^{\text{th}}$	n_{th}
10.0 mm ²	70.0°	3.0 mm	5

Table 1. Parameters in this experiments. The threshold of smooth connectivity is smaller.

Resulting segmentations are over-segmentation than the results in the paper. The generation of the combines between the superpixels are suppressed because the threshold of the connectivity is small. Therefore, the interpolation rates are lower than the results in the paper, because the numbers of the low-resolution depth data on each segment are smaller.