(Supplementary Material)
AesPA-Net: Aesthetic Pattern-Aware Style Transfer Networks

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A. Additional qualitative results

We provide additional qualitative results with zoomed patches for better comparisons with previous state-of-the-arts [6, 5, 8, 4, 7, 1, 3]. As shown in Fig. 2, our AesPA-Net outperform previous works. Moreover, we present the further qualitative comparisons with other recent AST methods such as CAST [12], AesUST [10] and StyleFormer [11], as well as patch-swapping based methods including AvatarNet [9] and style-swap [2] in Fig. 3.

In addition, we conduct artistic style transfer on high-resolution images (4752×3168) which are shown in Fig. 4. Also in Fig. 5, we depict the results of our stylization transformer with the improved computation efficiency by replacing WCT [6] with AdaIN [5].

Lastly, we provide additional qualitative comparison results for demonstrating the effectiveness of improved attention module in Fig. 6.

B. Analysis of probability p

In this section, we conduct ablation studies to verify the effect of probability p on the proposed pattern repeatability α_{style} by varying the value from 0.01 to 1.0. As shown in Fig. 1, α_{style} could capture the rhythm of pattern in each image even with few patch samples. Note that we set the probability p as 0.1 throughout the experiments for efficient calculation.

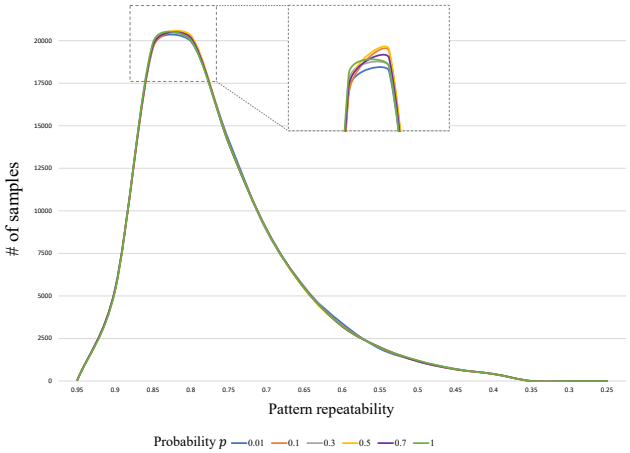


Figure 1. Ablation study of probability p for calculating the proposed pattern repeatability α_{style}.

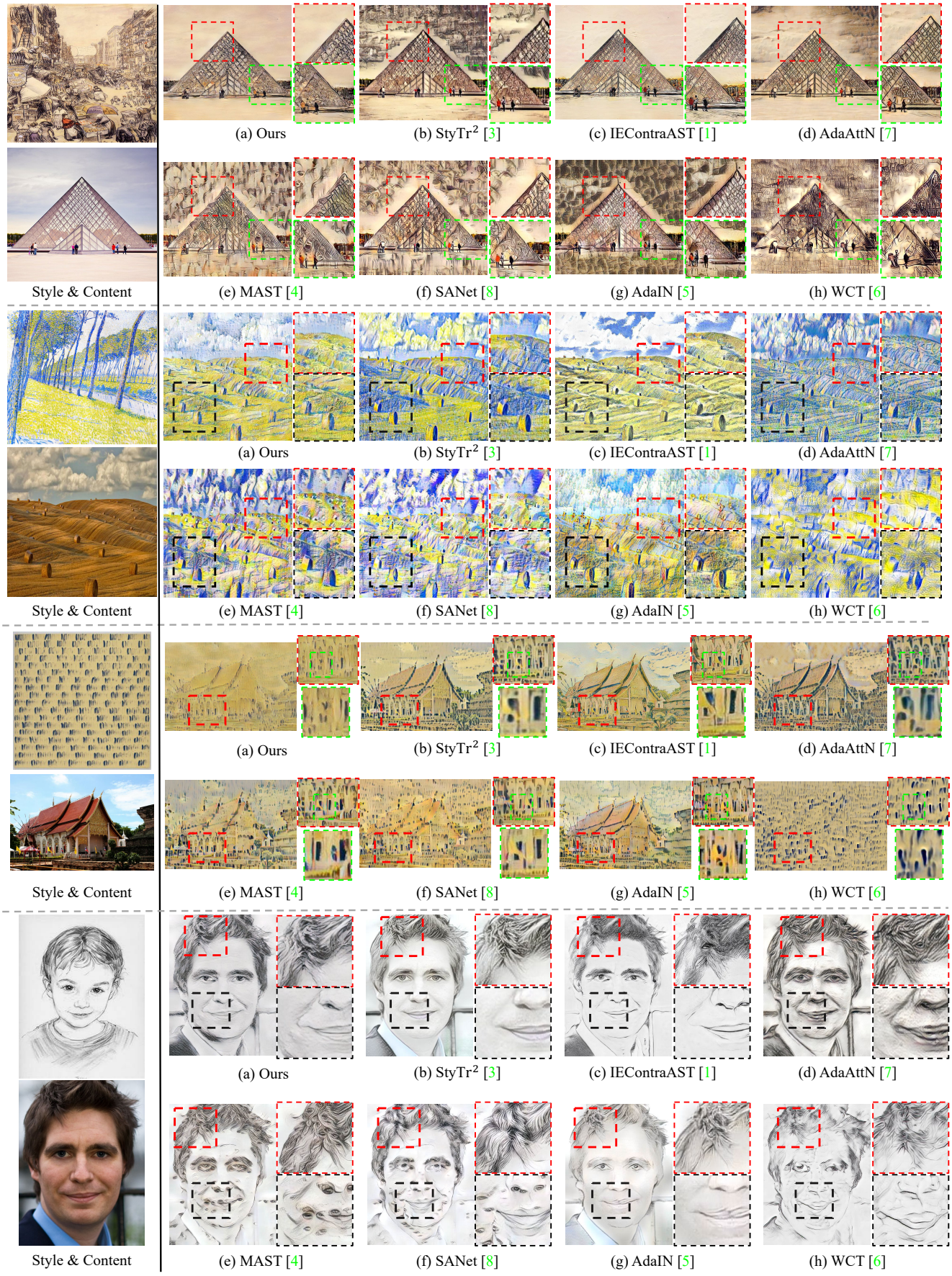


Figure 2. Qualitative comparisons with state-of-the-art AST methods.

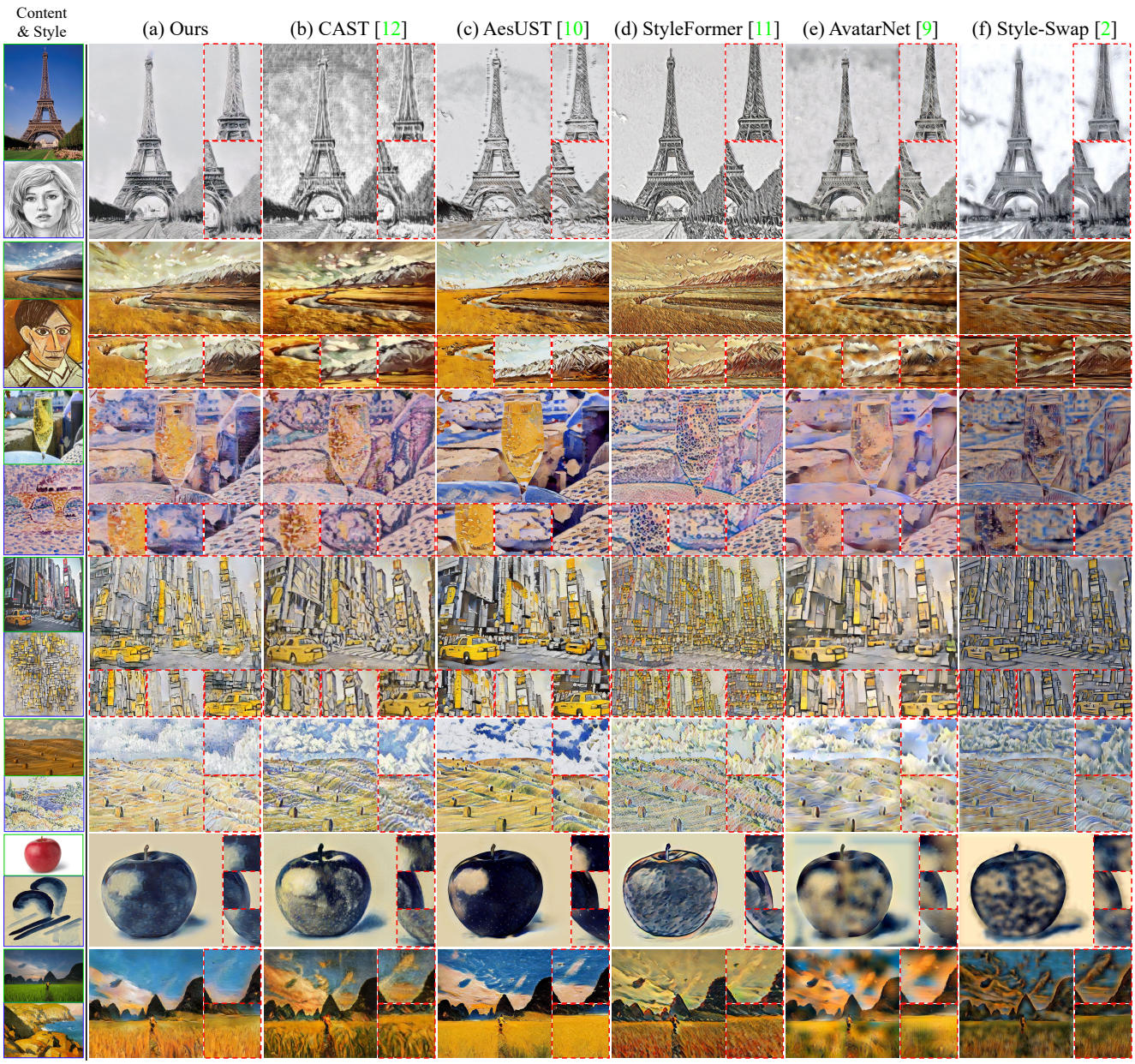


Figure 3. Qualitative comparisons with other recent AST methods [12, 10, 11] and patch-swapping based methods [9, **?**].

Figure 4. Qualitative results with high resolution (4752×3168). The red box indicates the artistic reference images, and the green box depicts the input content images.

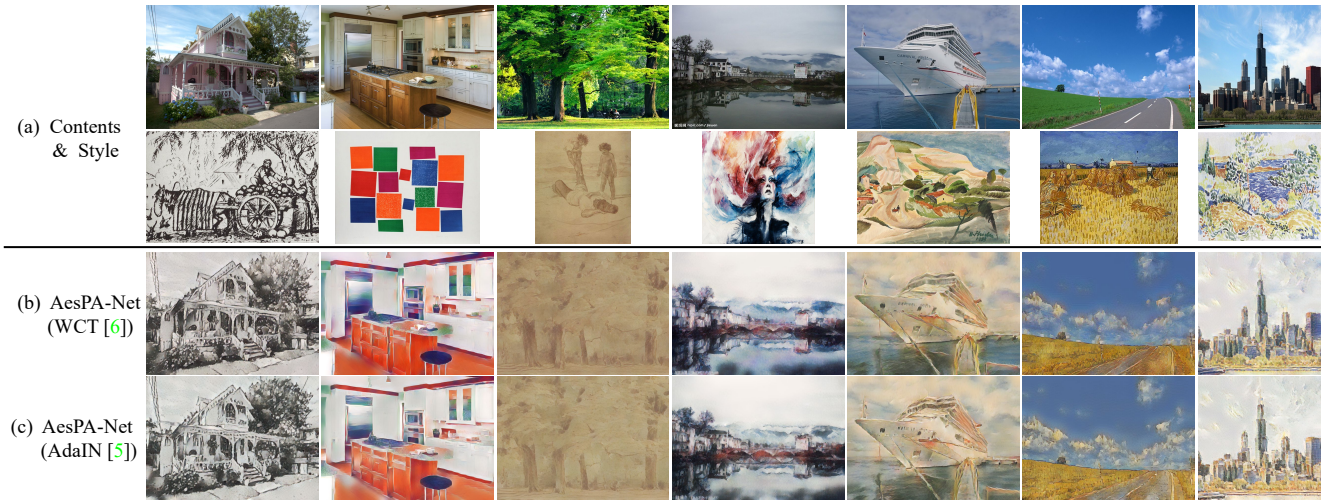
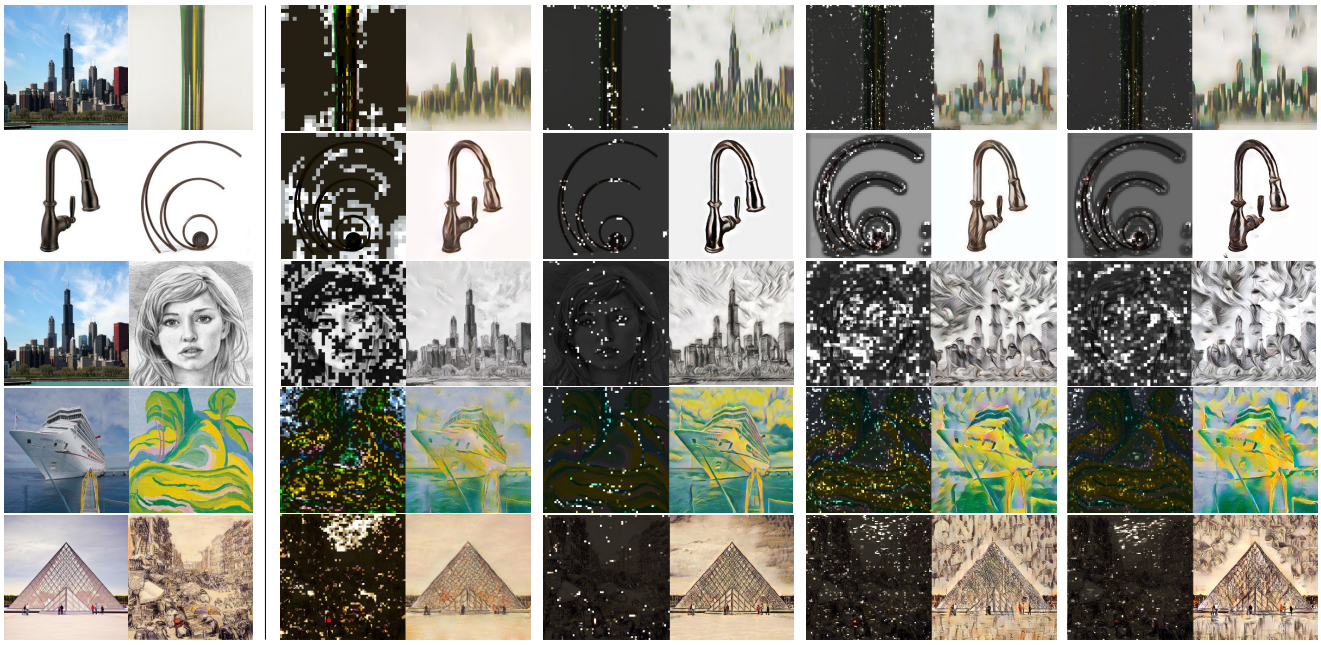


Figure 5. Qualitative results with the other global statistic-based transformation *i.e.*, AdaIN[5].



Content & Style (a) Ours (b) AdaAttN (c) MAST (d) SANet

Figure 6. Visualization of attended region and stylized results given a pair of content and style images.

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