

Adaptive Illumination Mapping for Shadow Detection in Raw Images

Supplemental Material

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This supplemental first shows some intermediate results of our adaptive illumination mapping (AIM) module (Figure 1 and Figure 2). Next, we report the ablation results on the sRGB image-based SBU [4] dataset, in Table 1. We then provide more examples of our dataset in Figure 3. Finally, we provide more visual comparisons between our method and existing methods in Figure 4 and Figure 5.



Figure 1. Intermediate results of our adaptive illumination mapping (AIM) module before ((b) and (c)) and after ((d) and (e)) the feedback mechanism. It shows that the feedback mechanism guides the AIM module to produce shadow-aware tone-mapped images.

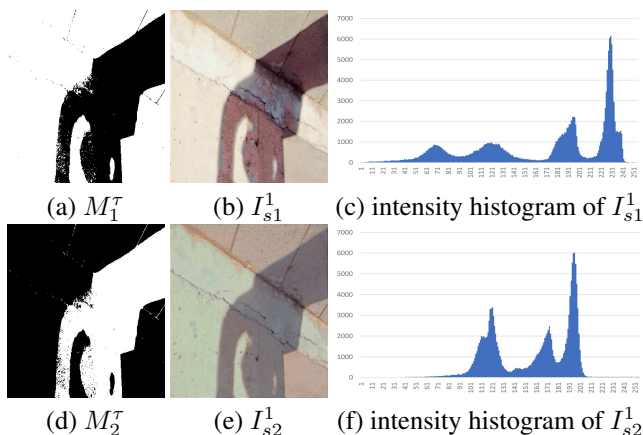


Figure 2. Visualization of M_1^T (a), I_{s1}^1 (b), M_2^T (d), and I_{s2}^1 (e) of Eq.1 of main paper. (c) and (f) are the intensity histograms of (b) and (e), respectively. It shows that the AIM module learns to project the raw image into sRGB images of different intensity distributions.

Table 1. Ablation studies on the proposed adaptive illumination mapping module (AIM), feedback mechanism (FM), the uses of $\mathcal{L}_d$ and error map (EM). We report the overall BER scores on the test set of SBU [4] dataset.

	AIM	FM	L_d	EM	BER↓
SDM	×	×	×	×	3.39
SDM+AIM	✓	×	×	×	3.01
SDM+AIM+FM	✓	✓	×	×	3.00
SDM+AIM+FM	✓	✓	✓	×	2.89
Ours	✓	✓	✓	✓	2.87

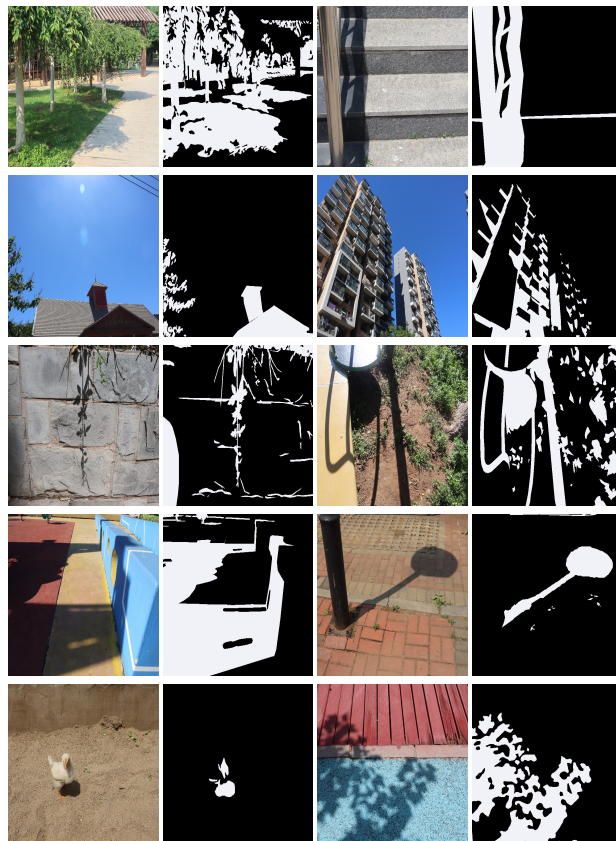


Figure 3. Examples of our dataset.

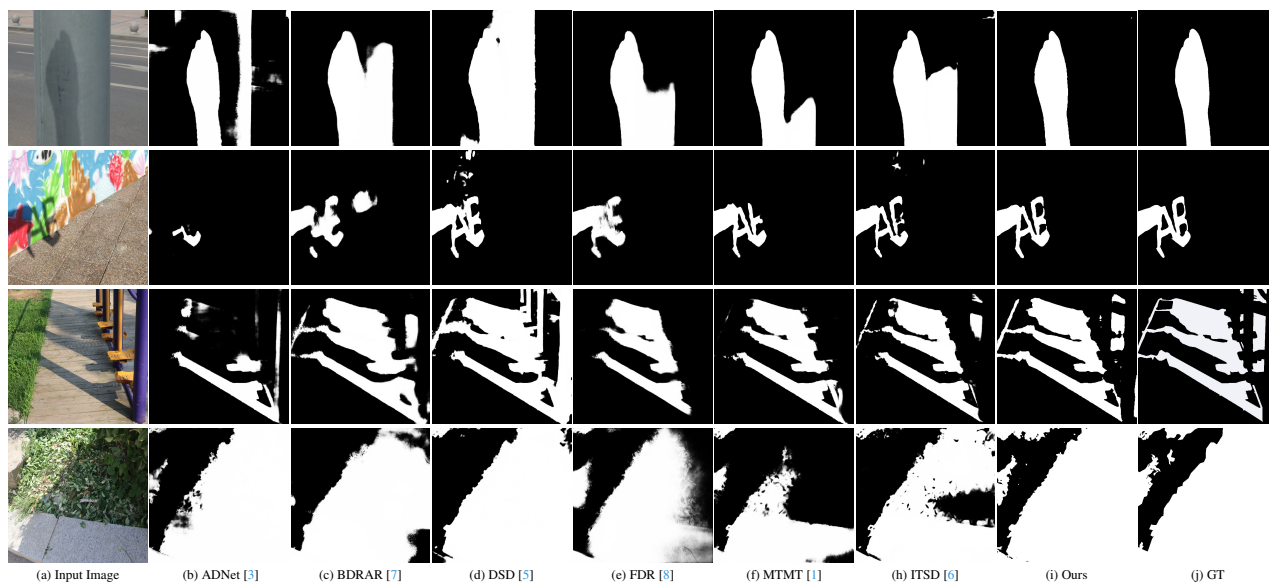


Figure 4. Qualitative comparison of the proposed method with the most recent state-of-the-art methods on our dataset.

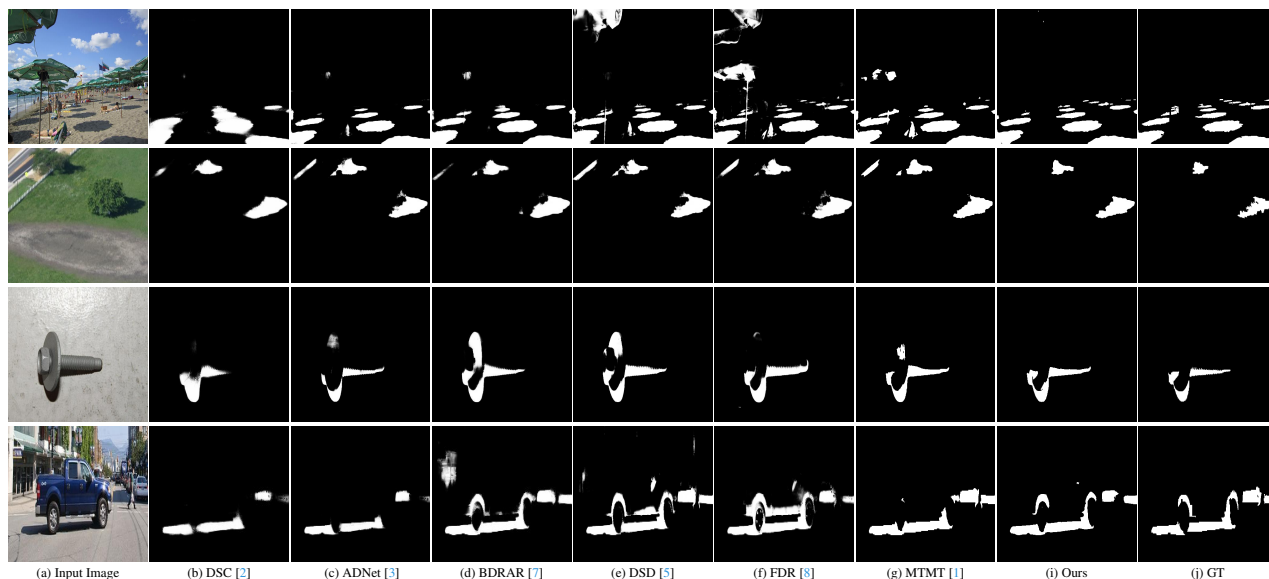


Figure 5. Qualitative comparison of the proposed method with the most recent state-of-the-art methods on sRGB image-based shadow detection dataset.

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