

# Supplementary Material: Stacked Deep Multi-Scale Hierarchical Network for Fast Bokeh Effect Rendering from a Single Image

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## 1. Additional qualitative comparison on *EBB Val294* set

In this section we show additional qualitative comparison between different methods in literature on *EBB* [2] Val294 set (refer to Fig. 1).

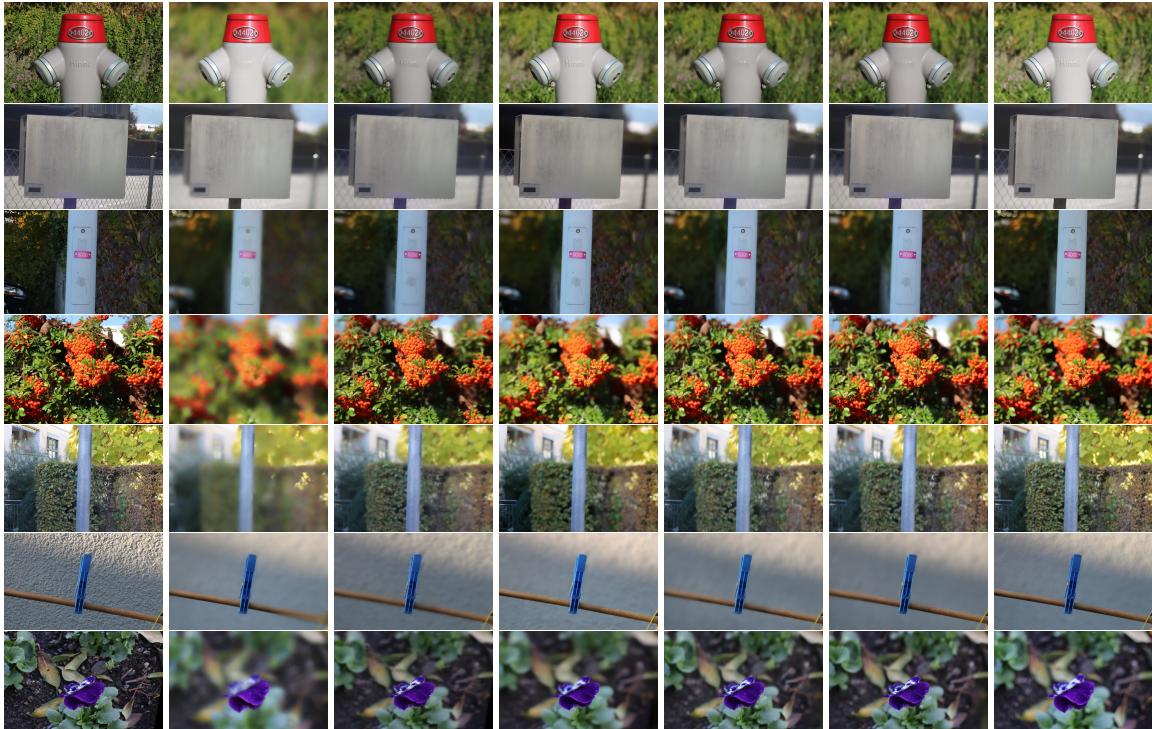


Figure 1: Comparison with other methods. From left: (a) Input Image (b) SKN [3] (c) DBSI [1] (d) PyNet [2] (e) DMSHN (ours) (f) Stacked DMSHN (ours) (g) Ground Truth.

## 2. Qualitative comparison on *EBB* test set

Qualitative comparison between different state-of-the-art methods on *EBB* [?] Test set are shown in Fig. 2. Please note that ground truth images for this set is not available yet.

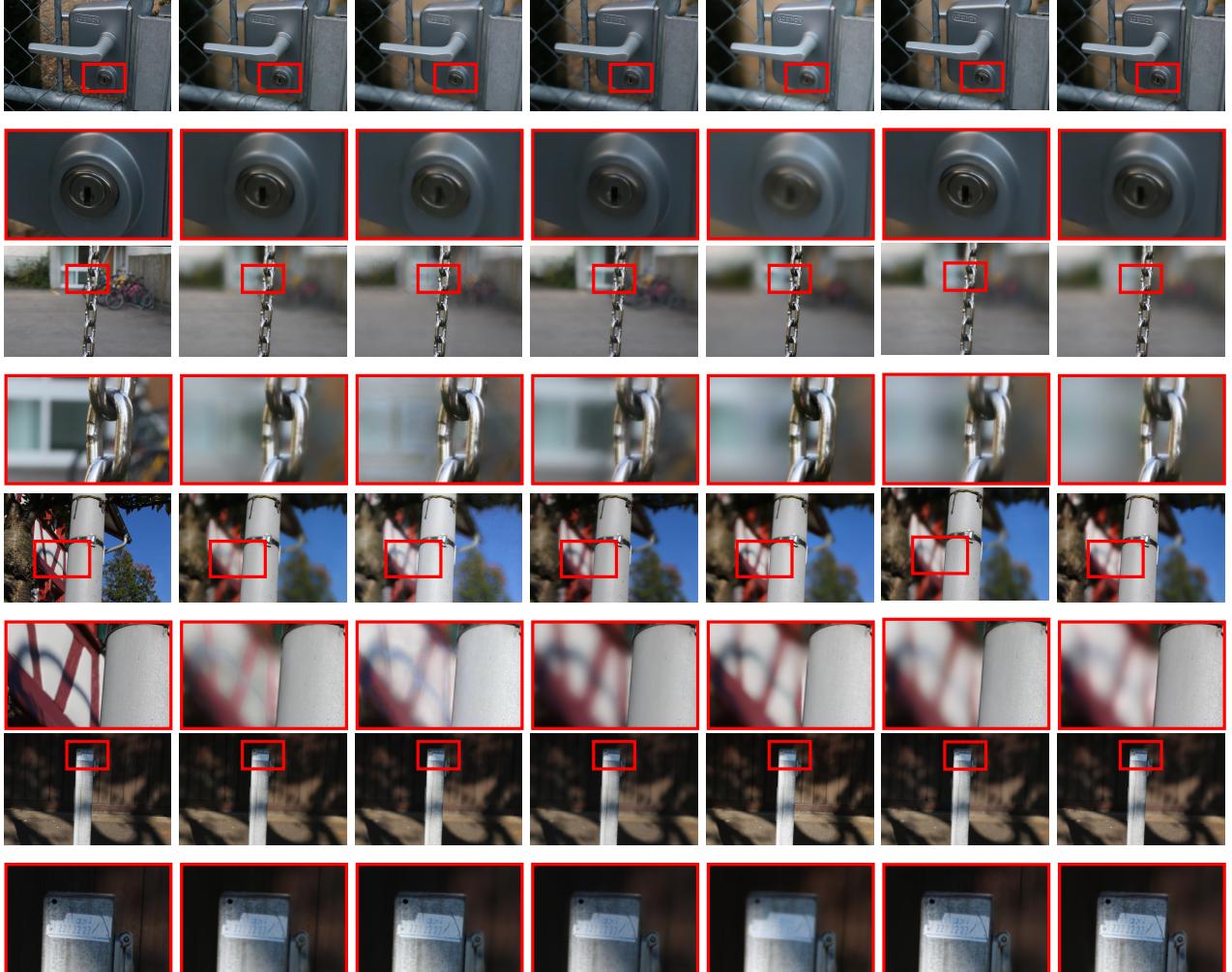


Figure 2: Comparison with other methods. From left: (a) Input Image (b) SKN [3] (c) DDDF [4] (d) DBSI [1] (e) PyNet [2] (f) DMSHN (ours) (g) Stacked DMSHN (ours)

### 3. Importance of residual connections between encoded features in DMSHN:

Additional demonstation for importance of residual connections in DMSHN is shown in Fig. 3.

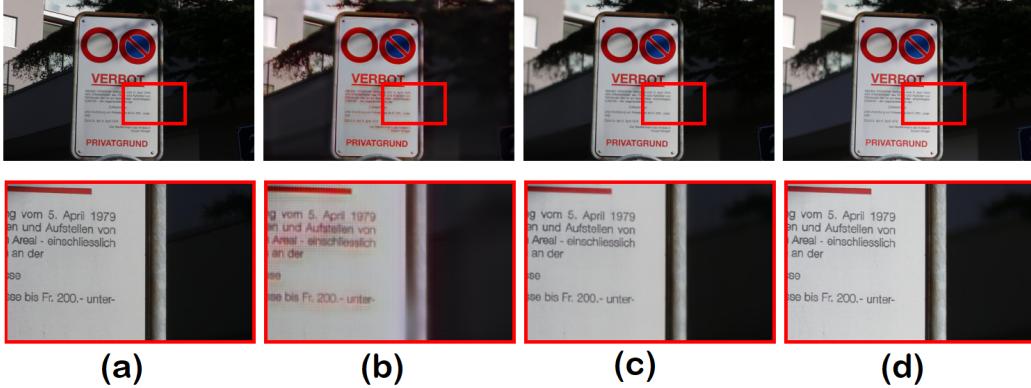


Figure 3: Effect of residual connection between encoders of different levels. From left: (a) Input Image (b) DMSHN (w/o res.) (c) DMSHN (with res.) (d) Ground Truth.

## References

- [1] Saikat Dutta. Depth-aware blending of smoothed images for bokeh effect generation. *arXiv preprint arXiv:2005.14214*, 2020. [1](#), [2](#)
- [2] Andrey Ignatov, Jagruti Patel, and Radu Timofte. Rendering natural camera bokeh effect with deep learning. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops*, pages 418–419, 2020. [1](#), [2](#)
- [3] Andrey Ignatov, Jagruti Patel, Radu Timofte, Bolun Zheng, Xin Ye, Li Huang, Xiang Tian, Saikat Dutta, Kuldeep Purohit, Praveen Kandula, et al. Aim 2019 challenge on bokeh effect synthesis: Methods and results. In *2019 IEEE/CVF International Conference on Computer Vision Workshop (ICCVW)*, pages 3591–3598. IEEE, 2019. [1](#), [2](#)
- [4] Kuldeep Purohit, Maitreya Suin, Praveen Kandula, and Rajagopalan Ambasamudram. Depth-guided dense dynamic filtering network for bokeh effect rendering. In *2019 IEEE/CVF International Conference on Computer Vision Workshop (ICCVW)*, pages 3417–3426. IEEE, 2019. [2](#)