

Supplementary Material: Learning to Detect Mirrors from Videos via Dual Correspondences

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1. Overview

In this supplemental, we first show in Figure 1 more example images with annotated masks from our proposed VMD-D dataset, which covers a variety of daily scenes containing glass with different shapes. In Figure 2 and Figure 3, we also provide more comparisons of our method with 14 state-of-the-art methods from relevant fields, including GateNet [14] and MINet [8] for salient object detection; PCSA [4] for video salient object detection; DeepLabV3 [1], PSPNet [13] and OCRNet [12] for semantic segmentation; TVSD [2], STICT [7] and Sc-Cor [3] for video shadow detection; HFAN [9] for video object segmentation; GlassNet [5] for glass surface detection; MirrorNet [11], PMDNet [6] and VCNet [10] for single-image mirror detection.

References

- [1] Liang-Chieh Chen, George Papandreou, Florian Schroff, and Hartwig Adam. Rethinking atrous convolution for semantic image segmentation. *arXiv preprint arXiv:1706.05587*, 2017. 1, 3, 4
- [2] Zhihao Chen, Liang Wan, Lei Zhu, Jia Shen, Huazhu Fu, Wennan Liu, and Jing Qin. Triple-cooperative video shadow detection. In *CVPR*, pages 2715–2724, 2021. 1
- [3] Xinpeng Ding, Jingwen Yang, Xiaowei Hu, and Xiaomeng Li. Learning shadow correspondence for video shadow detection. In *ECCV*, pages 705–722. Springer, 2022. 1, 3, 4
- [4] Yuchao Gu, Lijuan Wang, Ziqin Wang, Yun Liu, Ming-Ming Cheng, and Shao-Ping Lu. Pyramid constrained self-attention network for fast video salient object detection. In *AAAI*, 2020. 1
- [5] Jiaying Lin, Zebang He, and Rynson WH Lau. Rich context aggregation with reflection prior for glass surface detection. In *CVPR*, pages 13415–13424, 2021. 1, 3, 4
- [6] Jiaying Lin, Guodong Wang, and Rynson W. H. Lau. Progressive mirror detection. In *CVPR*, 2020. 1, 3, 4
- [7] Xiao Lu, Yihong Cao, Sheng Liu, Chengjiang Long, Zipei Chen, Xuanyu Zhou, Yimin Yang, and Chunxia Xiao. Video shadow detection via spatio-temporal interpolation consistency training. In *CVPR*, pages 3116–3125, 2022. 1
- [8] Youwei Pang, Xiaoqi Zhao, Lihe Zhang, and Huchuan Lu. Multi-scale interactive network for salient object detection. In *CVPR*, pages 9413–9422, 2020. 1
- [9] Gensheng Pei, Fumin Shen, Yazhou Yao, Guo-Sen Xie, Zhenmin Tang, and Jinhui Tang. Hierarchical feature alignment network for unsupervised video object segmentation. In *ECCV*, pages 596–613. Springer, 2022. 1, 3, 4
- [10] Xin Tan, Jiaying Lin, Ke Xu, Chen Pan, Lizhuang Ma, and Rynson W. H. Lau. Mirror detection with the visual chirality cue. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2022. 1, 3, 4
- [11] Xin Yang, Haiyang Mei, Ke Xu, Xiaopeng Wei, Baocai Yin, and Rynson W.H. Lau. Where is my mirror? In *ICCV*, 2019. 1
- [12] Yuhui Yuan, Xilin Chen, and Jingdong Wang. Object-contextual representations for semantic segmentation. In *ECCV*, pages 173–190. Springer, 2020. 1
- [13] Hengshuang Zhao, Jianping Shi, Xiaojuan Qi, Xiaogang Wang, and Jiaya Jia. Pyramid scene parsing network. In *CVPR*, pages 2881–2890, 2017. 1
- [14] Xiaoqi Zhao, Youwei Pang, Lihe Zhang, Huchuan Lu, and Lei Zhang. Suppress and balance: A simple gated network for salient object detection. In *ECCV*, pages 35–51. Springer, 2020. 1, 3, 4

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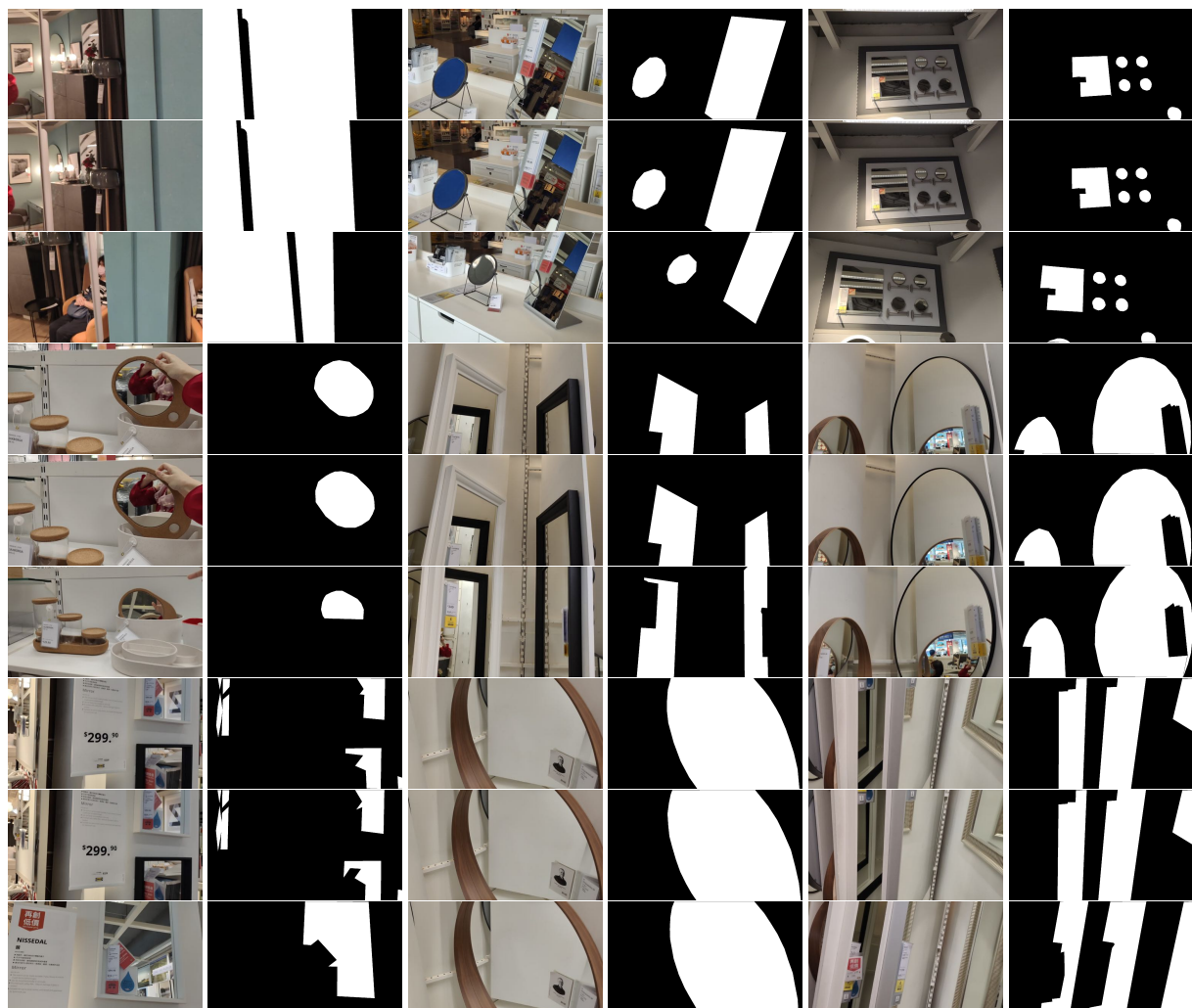


Figure 1. More examples of the proposed Video Mirror Detection dataset, VMD-D, with pixel-level annotations. It shows that the VMD-D dataset covers a variety of daily scenes and mirror shapes.

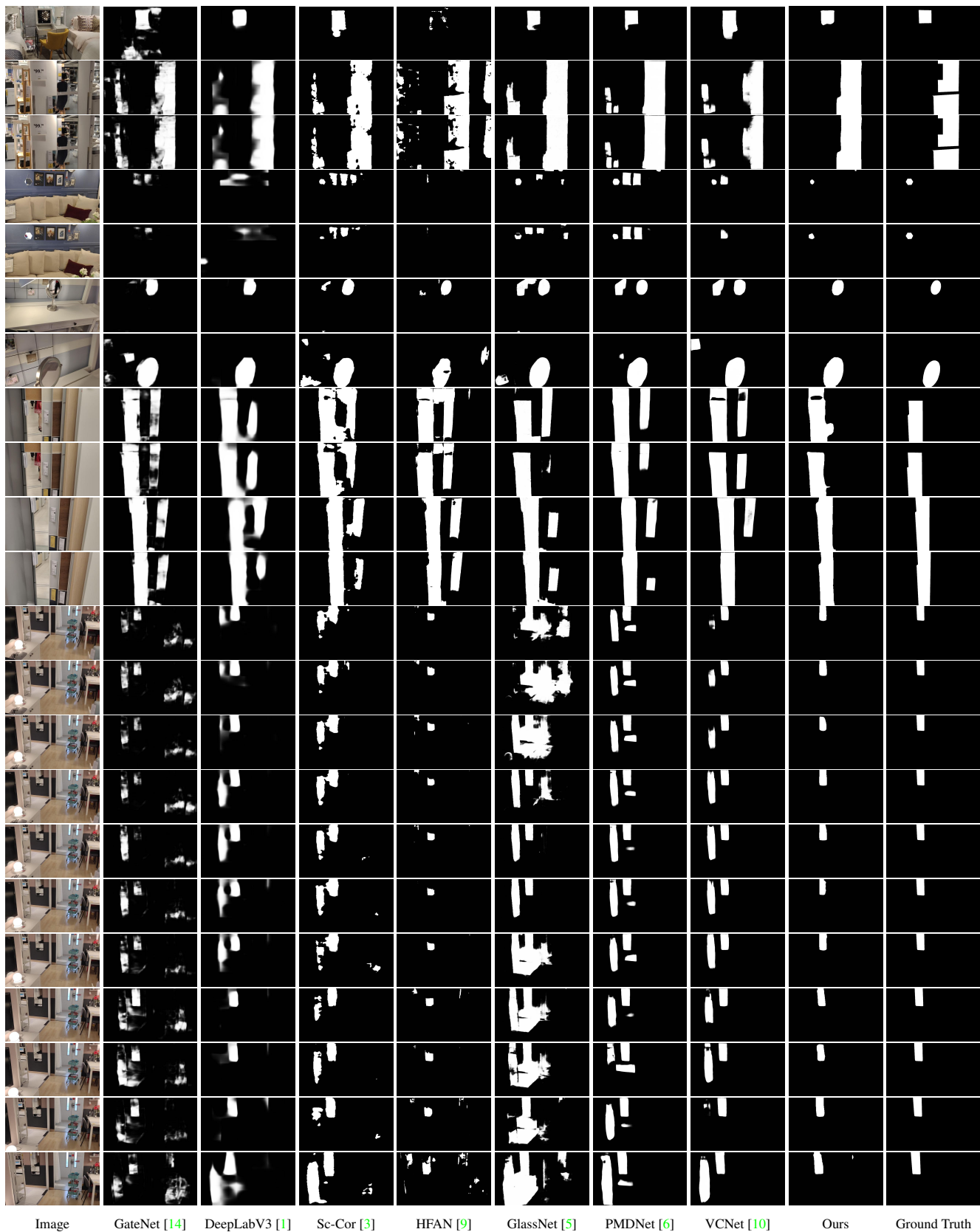


Figure 2. Visual comparison between the proposed VMD-Net and selected state-of-the-art methods from relevant fields.

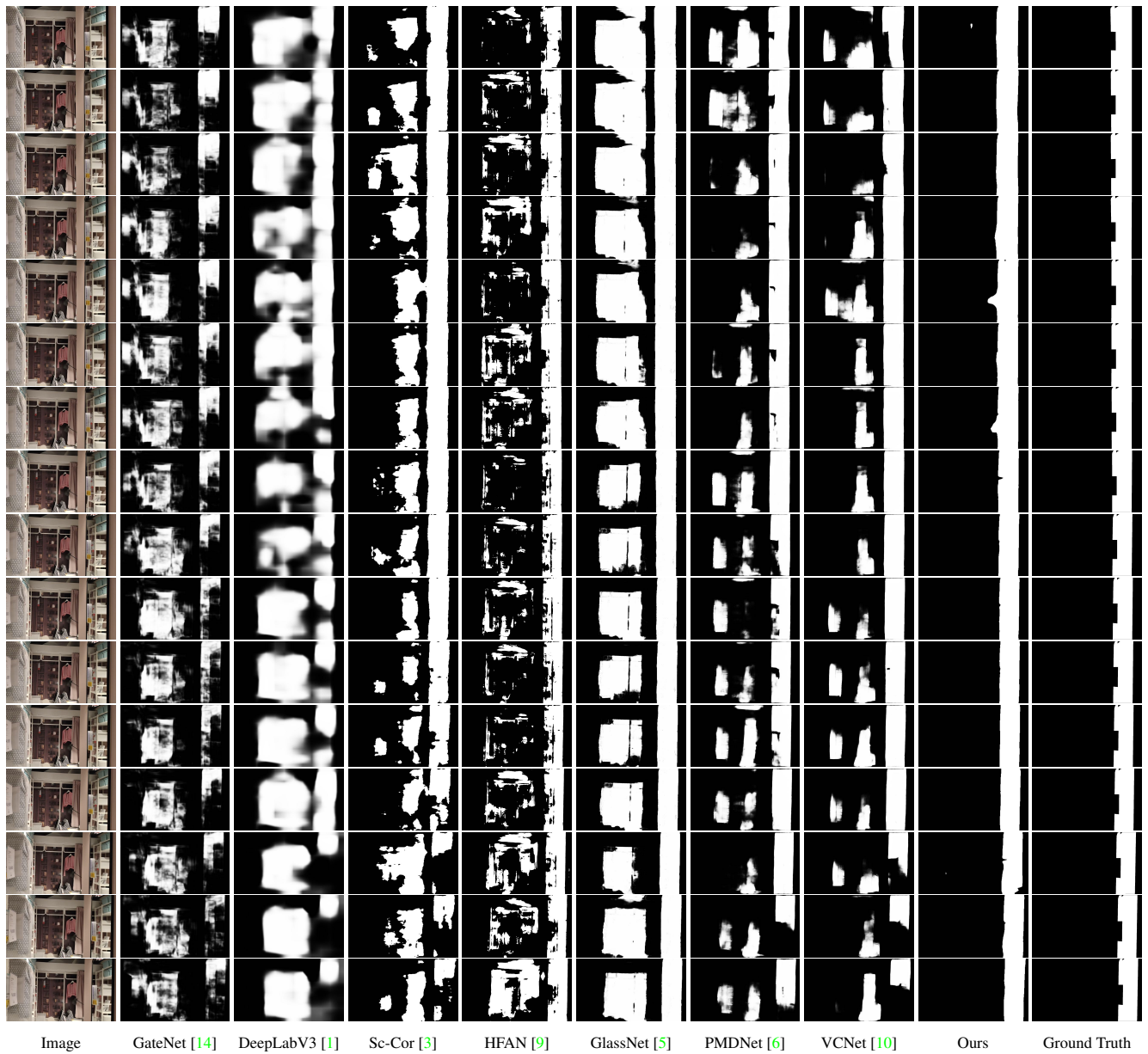


Figure 3. Visual comparison between the proposed VMD-Net and selected state-of-the-art methods from relevant fields.