Supplementary Material for "Practical Stereo Matching via Cascaded Recurrent Network with Adaptive Correlation"

Jiankun Li Peisen Wang Pengfei Xiong Tao Cai Ziwei Yan Lei Yang
Jiangyu Liu Haoqiang Fan Shuaicheng Liu

1. Qualitative results on smartphone photos

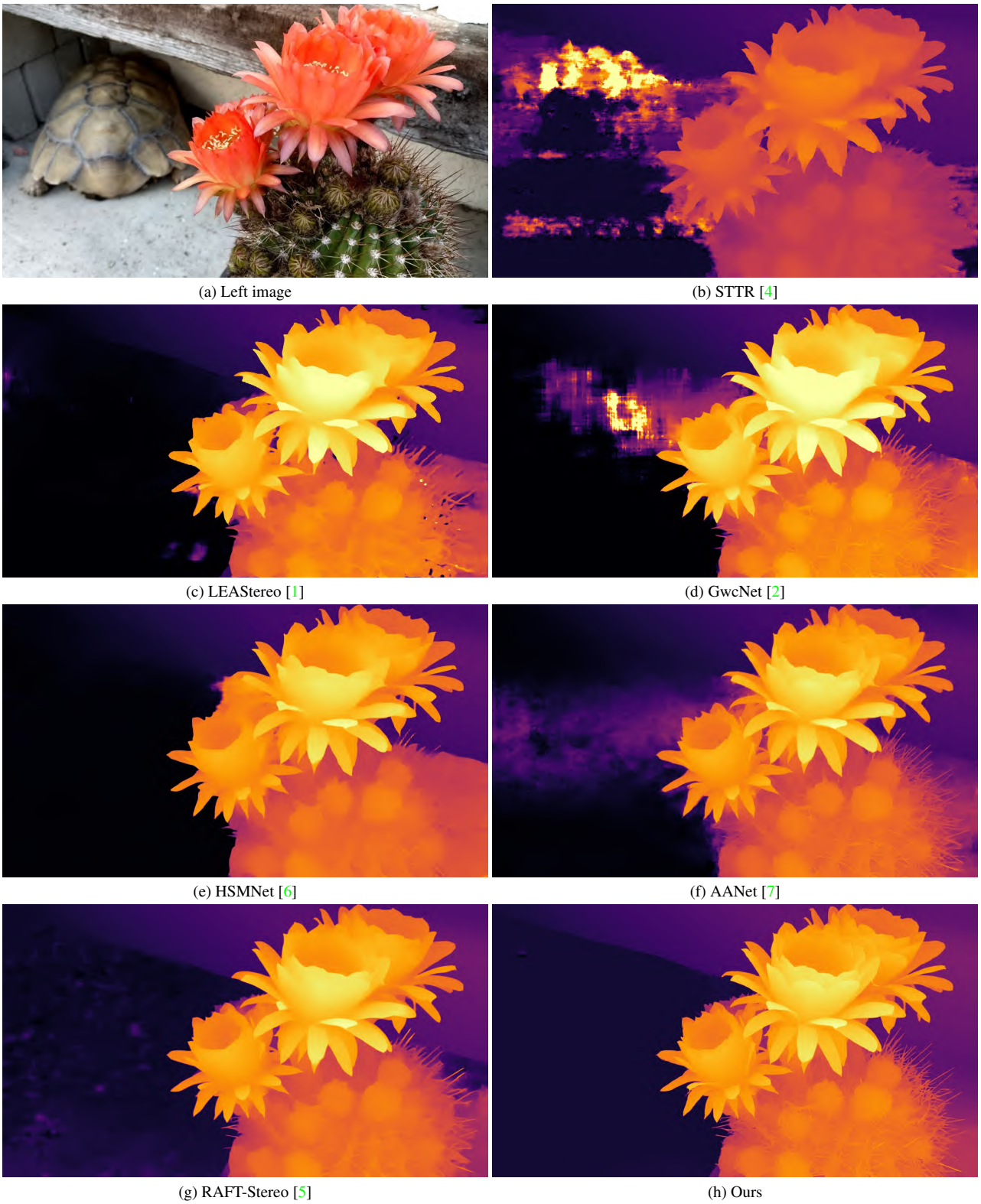
(a) Left image (b) Ground truth mask (c) Our disparity map

Figure 1. Our results on smartphone dataset. Foreground objects and areas in front of them are manually annotated as ground truth mask.

(a) Left image (b) Ground truth mask (c) Our disparity map

Figure 2. Our results on smartphone dataset. Foreground objects and areas in front of them are manually annotated as ground truth mask.

2. Qualitative comparison on Holopix50K



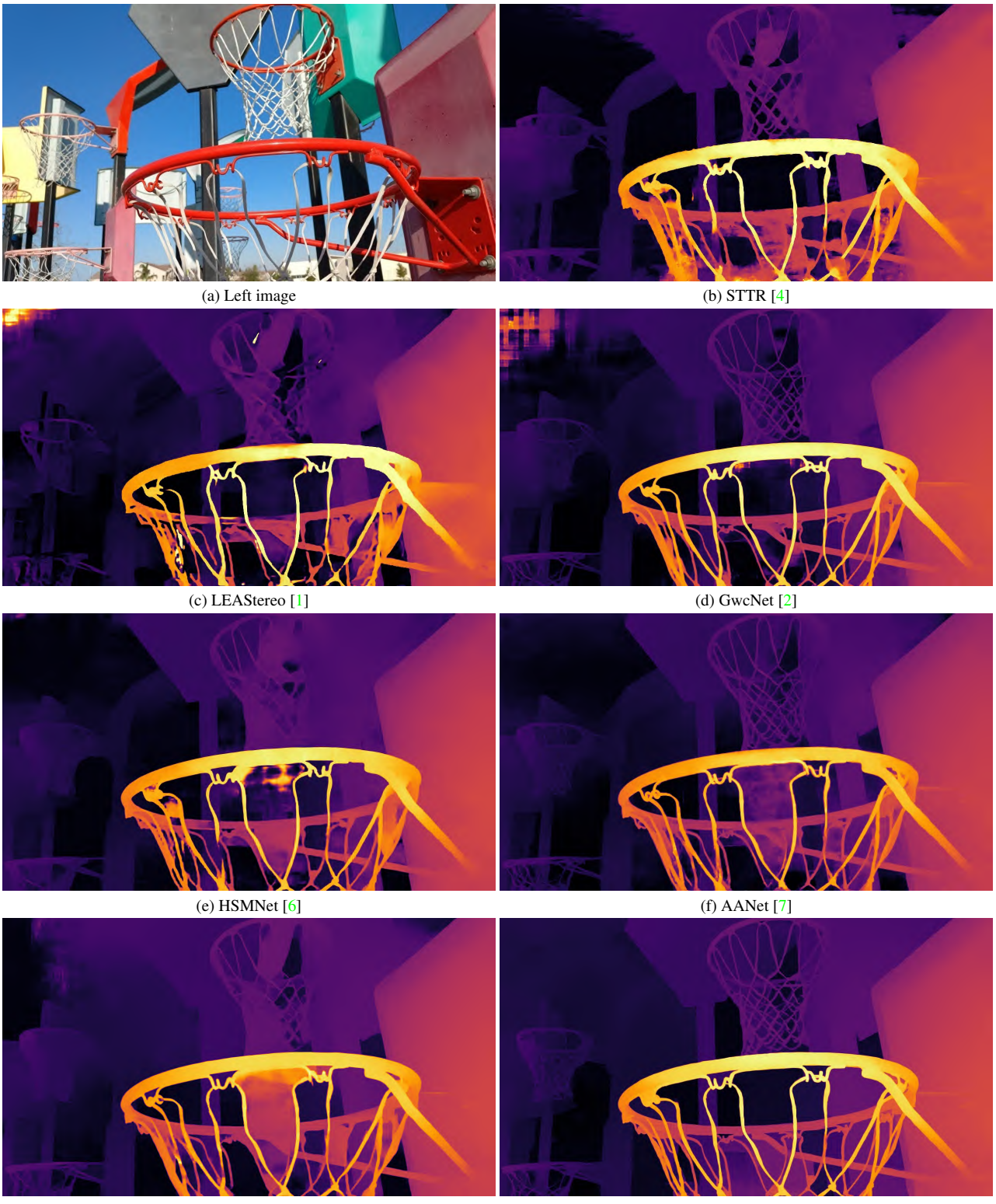
(a) Left image (b) STTR [4]

(c) LEAStereo [1] (d) GwcNet [2]

(e) HSMNet [6] (f) AANet [7]

(g) RAFT-Stereo [5] (h) Ours

Figure 3. Comparison of results from different methods on Holopix50K [3] dataset.



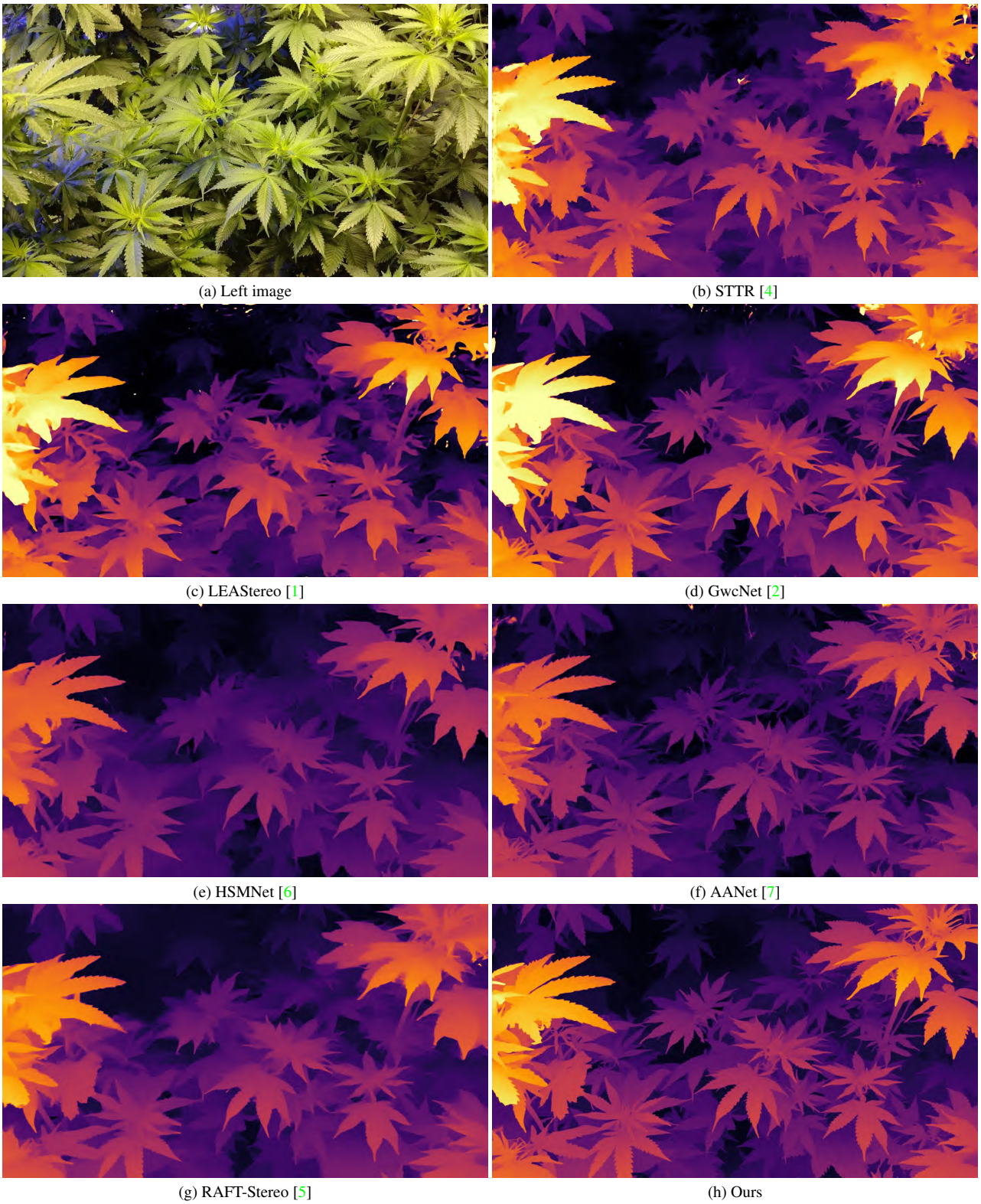
(a) Left image (b) STTR [4]

(c) LEAStereo [1] (d) GwcNet [2]

(e) HSMNet [6] (f) AANet [7]

(g) RAFT-Stereo [5] (h) Ours

Figure 4. Comparison of results from different methods on Holopix50K [3] dataset.



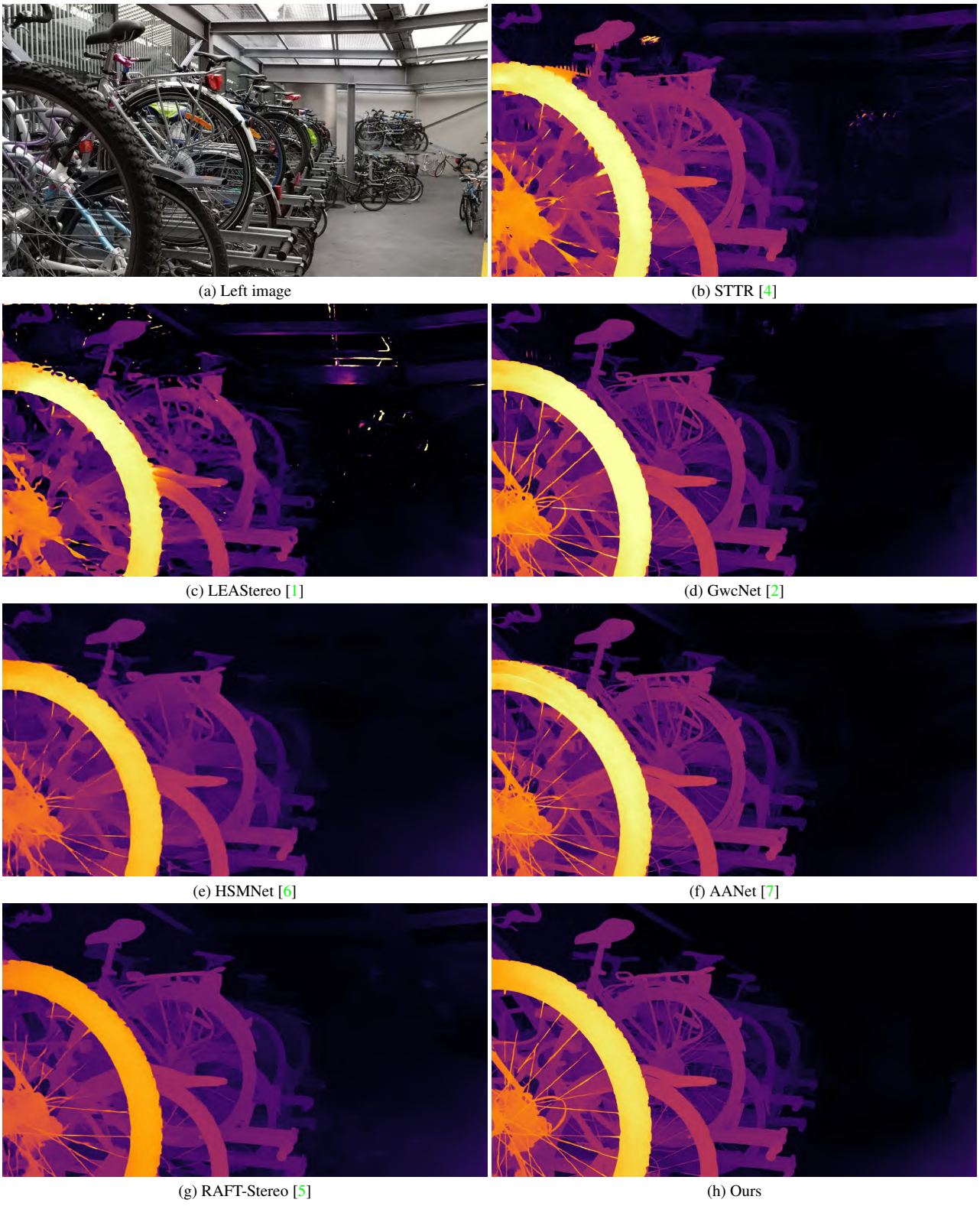
(a) Left image (b) STTR [4]

(c) LEAStereo [1] (d) GwcNet [2]

(e) HSMNet [6] (f) AANet [7]

(g) RAFT-Stereo [5] (h) Ours

Figure 5. Comparison of results from different methods on Holopix50K [3] dataset.



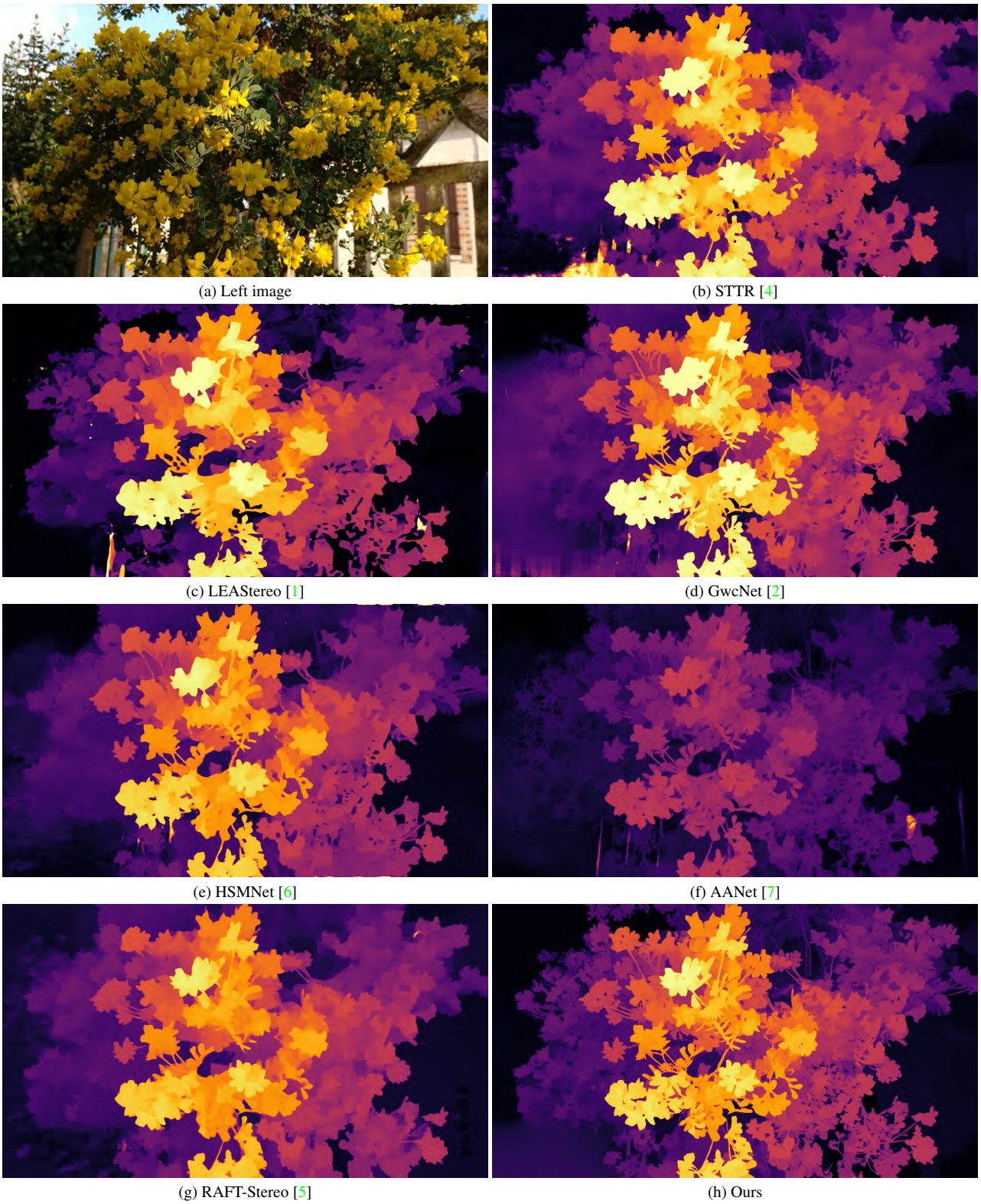
(a) Left image (b) STTR [4]

(c) LEAStereo [1] (d) GwcNet [2]

(e) HSMNet [6] (f) AANet [7]

(g) RAFT-Stereo [5] (h) Ours

Figure 6. Comparison of results from different methods on Holopix50K [3] dataset.



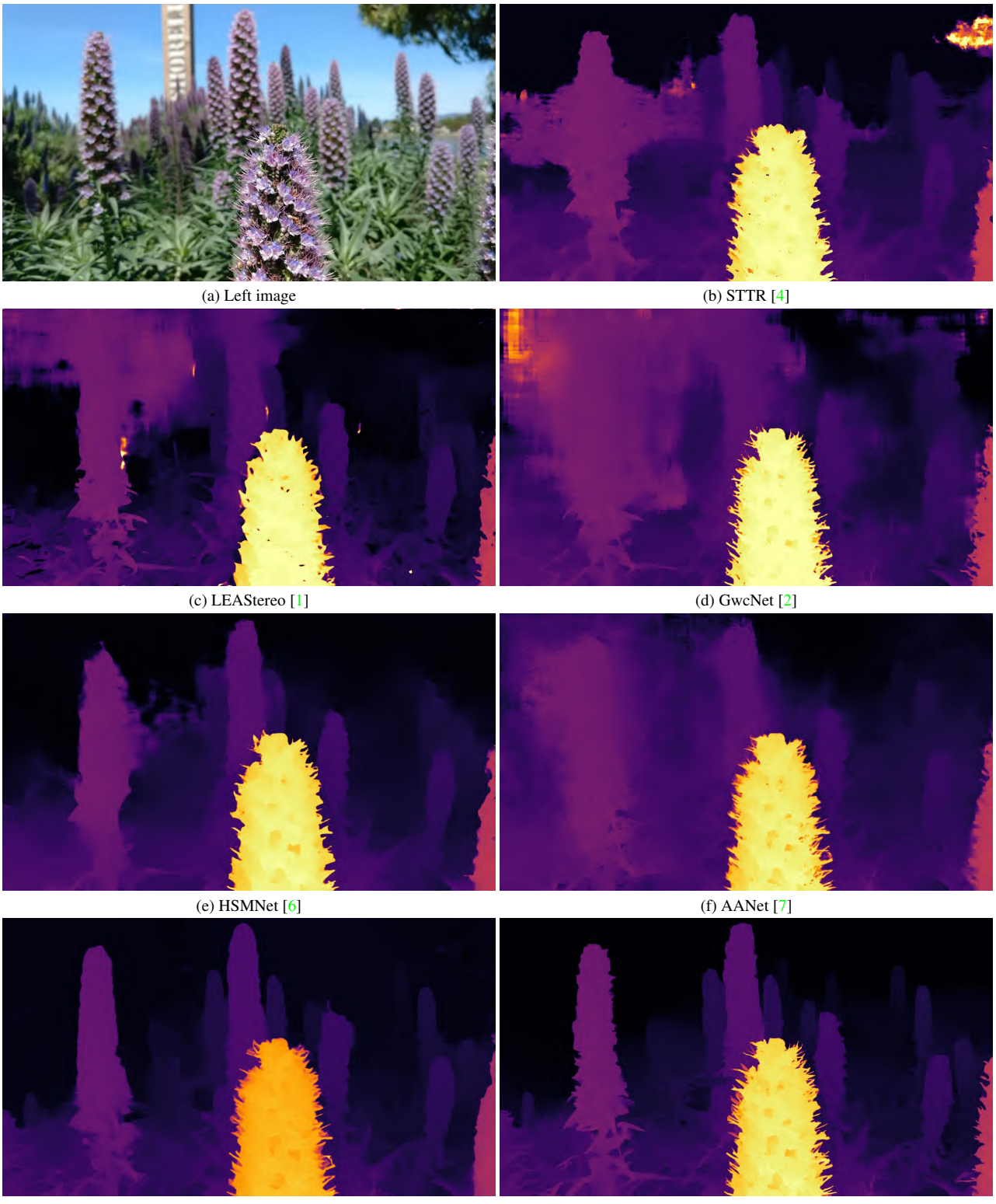
(a) Left image (b) STTR [4]

(c) LEAStereo [1] (d) GwcNet [2]

(e) HSMNet [6] (f) AANet [7]

(g) RAFT-Stereo [5] (h) Ours

Figure 7. Comparison of results from different methods on Holopix50K [3] dataset.



(a) Left image (b) STTR [4]

(c) LEAStereo [1] (d) GwcNet [2]

(e) HSMNet [6] (f) AANet [7]

(g) RAFT-Stereo [5] (h) Ours

Figure 8. Comparison of results from different methods on Holopix50K [3] dataset.

References

[1] Xuelian Cheng, Yiran Zhong, Mehrtash Harandi, Yuchao Dai, Xiaojun Chang, Tom Drummond, Hongdong Li, and Zongyuan Ge. Hierarchical neural architecture search for deep stereo matching. *arXiv preprint arXiv:2010.13501*, 2020. 3, 4, 5, 6, 7, 8

[2] Xiaoyang Guo, Kai Yang, Wukui Yang, Xiaogang Wang, and Hongsheng Li. Group-wise correlation stereo network. In *Proc. CVPR*, pages 3273–3282, 2019. 3, 4, 5, 6, 7, 8

[3] Yiwen Hua, Puneet Kohli, Pritish Uplavikar, Anand Ravi, Saravana Gunaseelan, Jason Orozco, and Edward Li. Holopix50k: A large-scale in-the-wild stereo image dataset. In *Proc. CVPRW*, June 2020. 3, 4, 5, 6, 7, 8

[4] Zhaoshuo Li, Xingtong Liu, Nathan Drenkow, Andy Ding, Francis X Creighton, Russell H Taylor, and Mathias Unberath. Revisiting stereo depth estimation from a sequence-to-sequence perspective with transformers. *arXiv preprint arXiv:2011.02910*, 2020. 3, 4, 5, 6, 7, 8

[5] Lahav Lipson, Zachary Teed, and Jia Deng. Raft-stereo: Multilevel recurrent field transforms for stereo matching. *arXiv preprint arXiv:2109.07547*, 2021. 3, 4, 5, 6, 7, 8

[6] Jialiang Wang, Varun Jampani, Deqing Sun, Charles Loop, Stan Birchfield, and Jan Kautz. Improving deep stereo network generalization with geometric priors. *arXiv preprint arXiv:2008.11098*, 2020. 3, 4, 5, 6, 7, 8

[7] Haofei Xu and Juyong Zhang. Aanet: Adaptive aggregation network for efficient stereo matching. In *Proc. CVPR*, pages 1959–1968, 2020. 3, 4, 5, 6, 7, 8