Supplementary Material
RainGAN: Unsupervised Raindrop Removal via Decomposition and Composition

1. More qualitative results

Figure 1 demonstrates the raindrop removal result images in Qian *et al*. [3] **Test_b** test set between WSRR-GAN[1] and ours. To our best knowledge, WSRR-GAN is the only dedicated unpaired method for raindrop removal. WSRR-GAN removes some raindrop, but far from satisfactory. We can claim that our method is the first unpaired method to remove raindrop effectively. Figure 2 shows the visual comparison between CycleGAN and ours when evaluate on Robotcar[2] dataset.

References

[1] Wenjie Luo, Jianhuang Lai, and Xiaohua Xie. Weakly supervised learning for raindrop removal on a single image. *IEEE Transactions on Circuits and Systems for Video Technology*, 2020.

[2] Horia Porav, Tom Bruls, and Paul Newman. I can see clearly now: Image restoration via de-raining. In *2019 International Conference on Robotics and Automation (ICRA)*, pages 7087–7093. IEEE, 2019.

[3] Rui Qian, Robby T Tan, Wenhan Yang, Jiajun Su, and Jiaying Liu. Attentive generative adversarial network for raindrop removal from a single image. In *Proceedings of the IEEE conference on computer vision and pattern recognition*, pages 2482–2491, 2018.

[4] Jun-Yan Zhu, Taesung Park, Phillip Isola, and Alexei A. Efros. Unpaired image-to-image translation using cycle-consistent adversarial networks. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, Oct 2017.

(a) Raindrop (b) WSRR-GAN (c) Ours (d) Groundtruth

Figure 1. Visual comparison with WSRR-GAN[1]. From left to right: Raindrop image, WSRR-GAN, Ours , and Groundtruth

(a) Raindrop (b) CycleGAN (c) Ours (d) Groundtruth

Figure 2. Visual comparison with CycleGAN[4]. From left to right: Raindrop image, CycleGAN, Ours , and Groundtruth