

Supplementary Material for Leveraging Local Patch Alignment to Seam-cutting for Large Parallax Image Stitching

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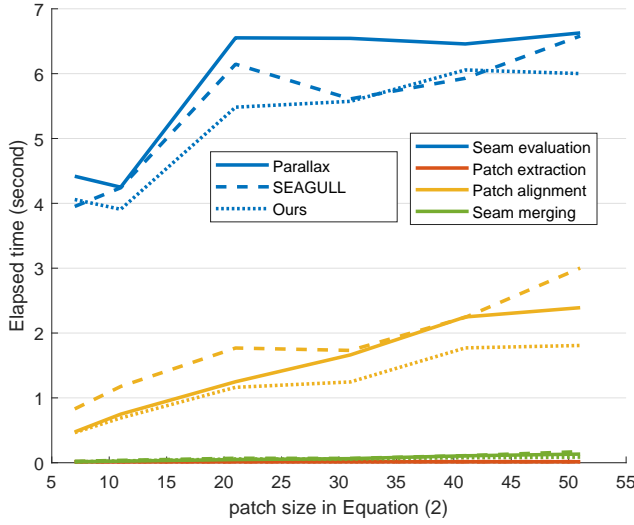


Figure 1. Computational cost of each process in LPAM under different patch sizes.

1. Computational Efficiency

We further evaluate the computational cost of each process in our LPAM under different patch sizes in Eq. (2), as shown in Fig. 1. Our LPAM mainly consists of seam evaluation, patch extraction, patch alignment, and seam merging. Patch extraction and seam merging cost little; the main costs are seam evaluation and patch alignment, with larger patch sizes increasing the latter's cost.

2. Visual Results

In this section, we present additional visual results in Fig. 2-7 to validate that incorporating our LPAM into the seam-cutting methods can significantly enhance the quality of the final stitching results.

References

- [1] Jiaxue Li and Yicong Zhou. Automatic quaternion-domain color image stitching. *IEEE Transactions on Image Process-*

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- [2] Nan Li, Tianli Liao, and Chao Wang. Perception-based seam cutting for image stitching. *Signal, Image and Video Processing*, 12(5):967–974, 2018. 2, 4, 5, 7
- [3] Tianli Liao, Jing Chen, and Yifang Xu. Quality evaluation-based iterative seam estimation for image stitching. *Signal, Image and Video Processing*, 13(6):1199–1206, 2019. 2, 3, 4, 5, 7



Figure 2. Comparisons of applying our LPAM to different seam-cutting methods.

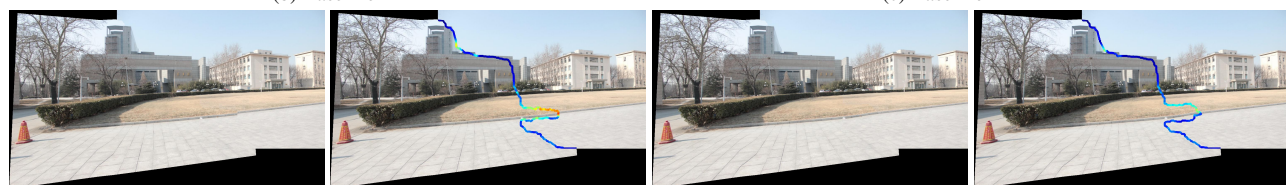


(a) Input images



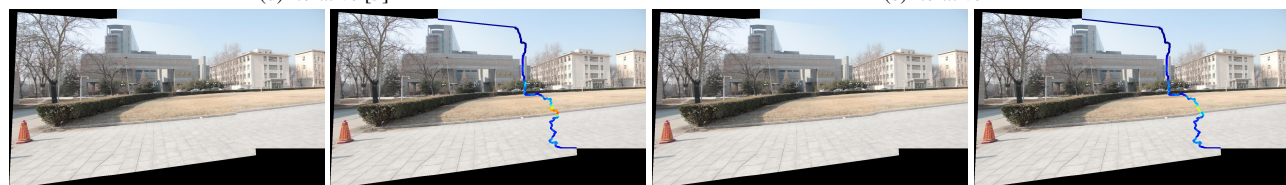
(b) Baseline

(c) Baseline+LPAM



(d) Iterative [3]

(e) Iterative+LPAM



(f) Quaternion [1]

(g) Quaternion+LPAM

Figure 3. Comparisons of applying our LPAM to different seam-cutting methods.

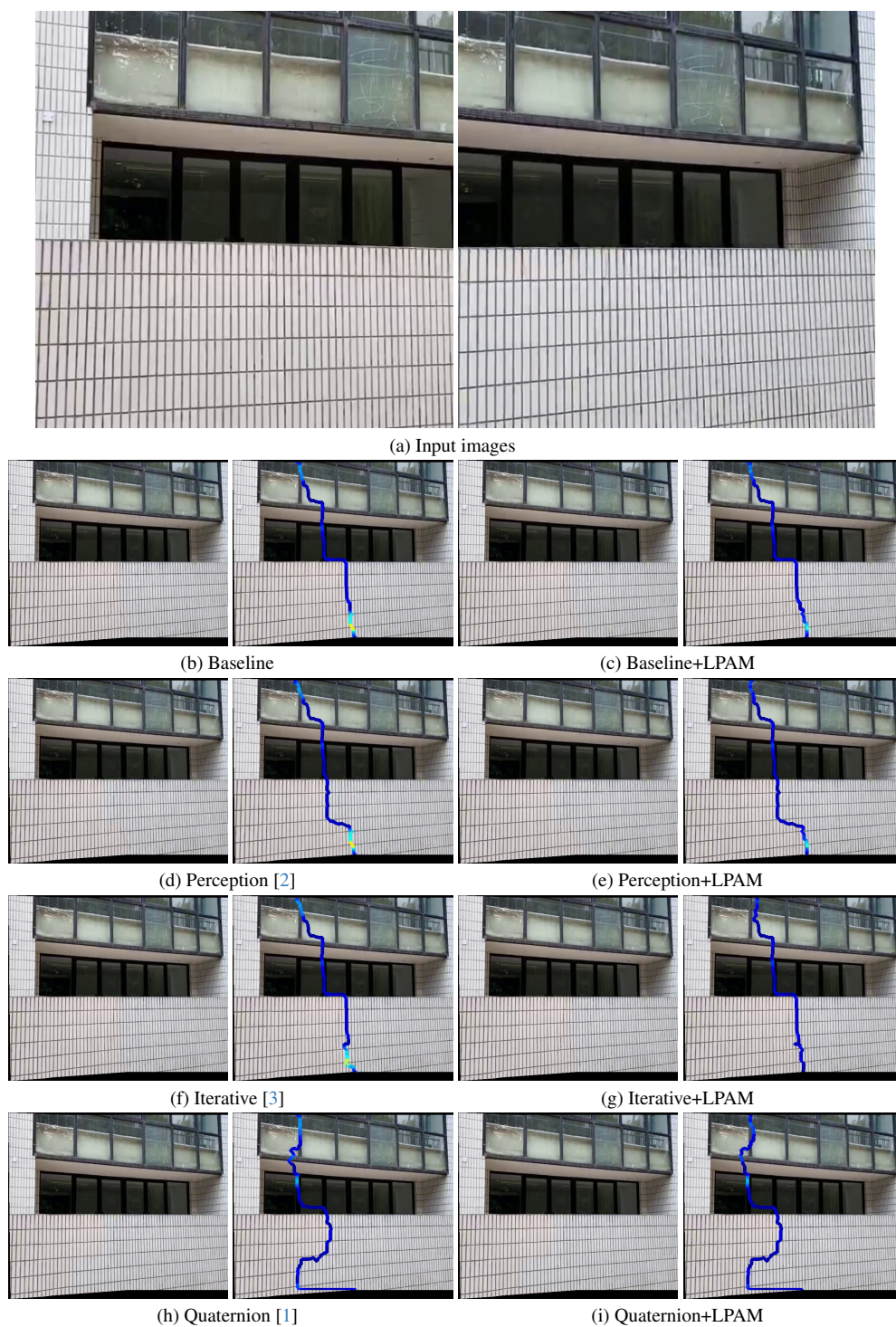


Figure 4. Comparisons of applying our LPAM to different seam-cutting methods.



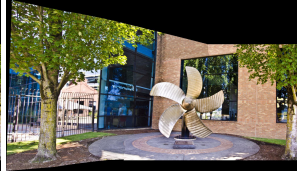
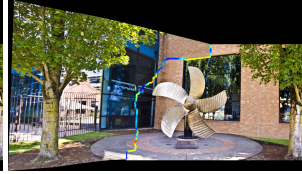
Figure 5. Comparisons of applying our LPAM to different seam-cutting methods.



(a) Input images



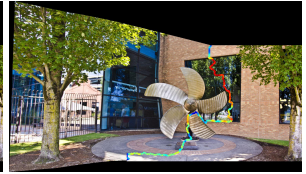
(b) Baseline



(c) Baseline+LPAM



(d) Quaternion [1]



(e) Quaternion+LPAM

Figure 6. Comparisons of applying our LPAM to different seam-cutting methods.



Figure 7. Comparisons of applying our LPAM to different seam-cutting methods.