

Multi-Level Spatial-Temporal Merging and Selectively Dense Residual Propagation for HDR Video Reconstruction

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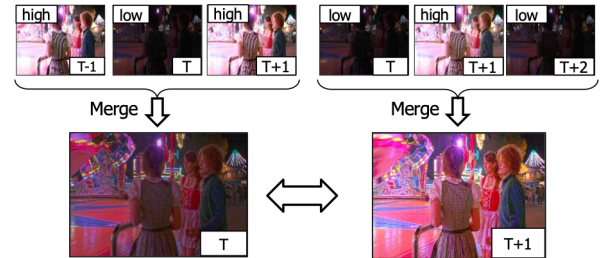
Background

- Low dynamic range (LDR)
 - Bad visual quality
 - Information loss
- High dynamic range (HDR)
 - Good visual quality
 - Real-world scene

Proposed method



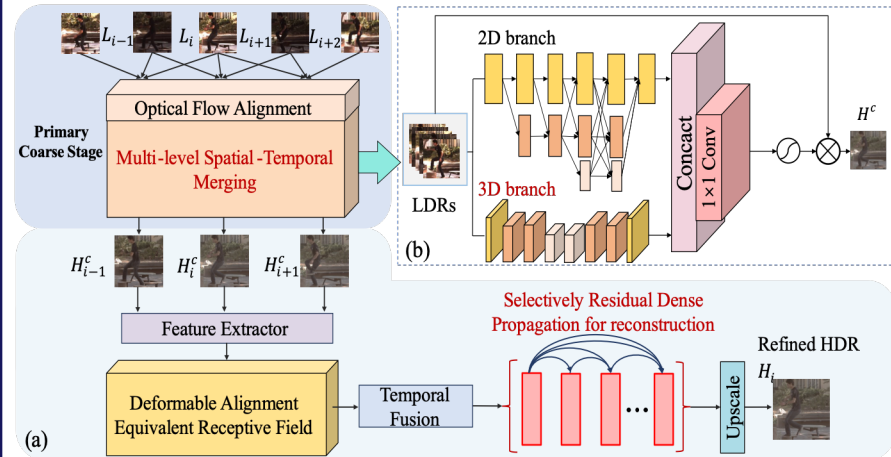
Challenge – Ghosting Artifacts & luminance-instability



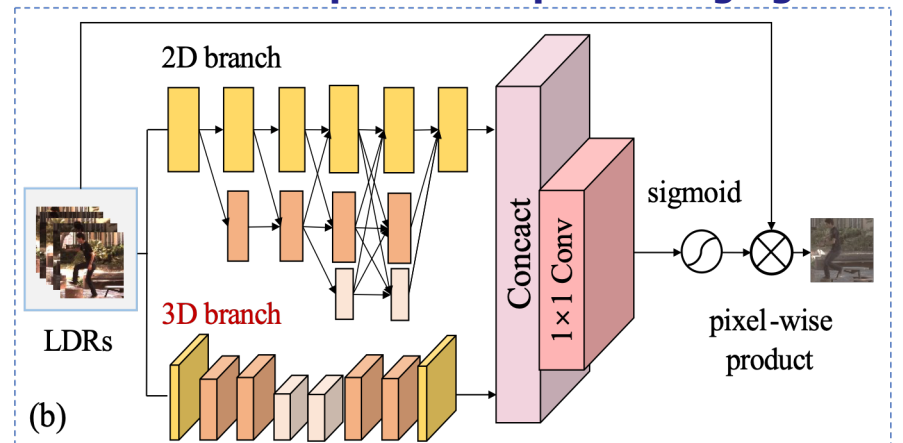
Target

- Generate ghost-free & luminance-stable HDR Video
- Based on deep learning method

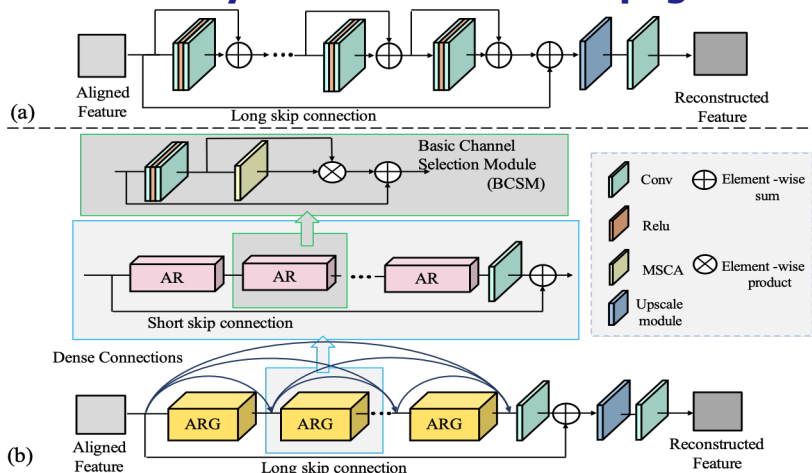
Overall framework



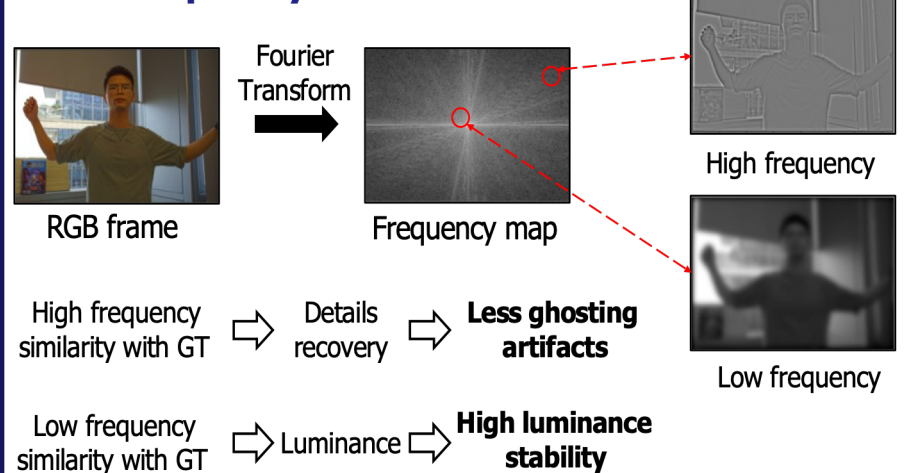
P1: Multi-Level Spatial-Temporal Merging



P2: Selectively Dense Residual Propagation



P3: Frequency Loss

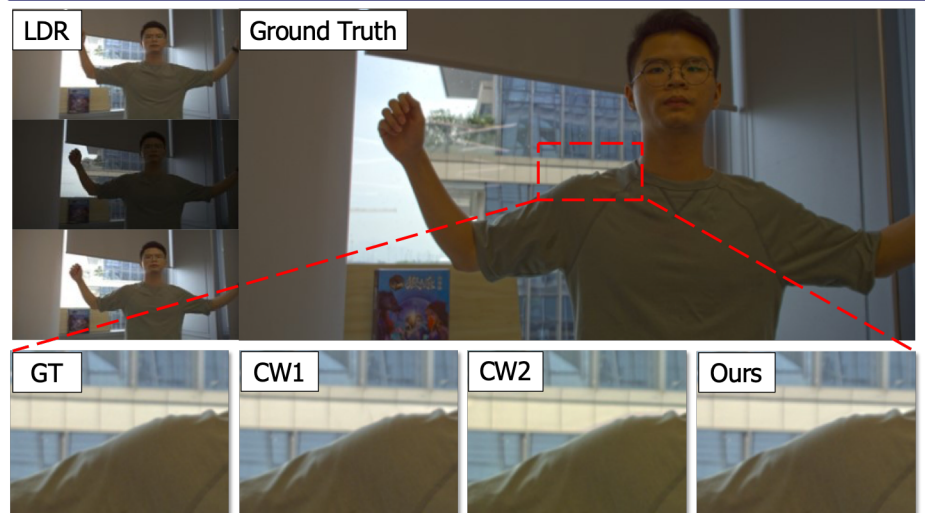


Experiments Result

	PSNR-T	VDP	VQM
CW1	43.84	73.82	86.71
CW2	41.15	69.37	77.45
P1+P2	44.64	73.90	86.83
P1+P2+P3 (after mid-term)	45.15	74.07	87.67

Conclusion

- The proposed method outperforms conventional works on the public synthetic dataset



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