

VFX Project1-HDR Image

P10942A05 鄭閔軒

Image Info

Image	Img1	Img2	Img3	Img4	Img5	Img6	Img7	Img8
shutter	1/1250	1/640	1/250	1/125	1/64	1/32	1/16	1/3



Image processing

1. Image Alignment

Implement MTB algorithm use recursive calculate shift (we use 5 as recursive times)

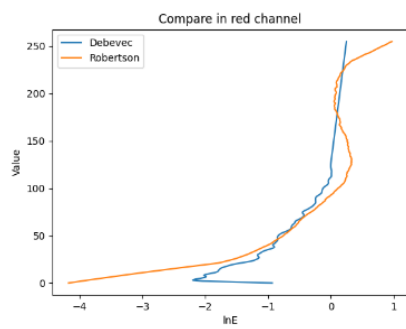
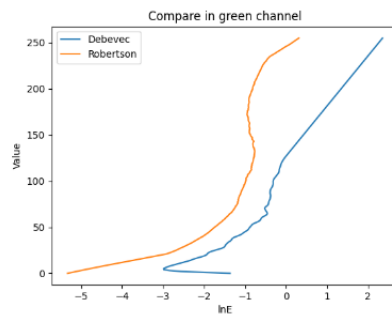
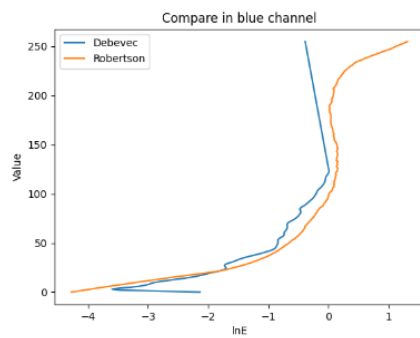
2. HDR algorithm

1. Paul Debevec algorithm (λ parameter = 20)
2. Robertson algorithm (Add smooth function to smooth response curve, we use moving average size 41 with edge padding)

3. Tone mapping

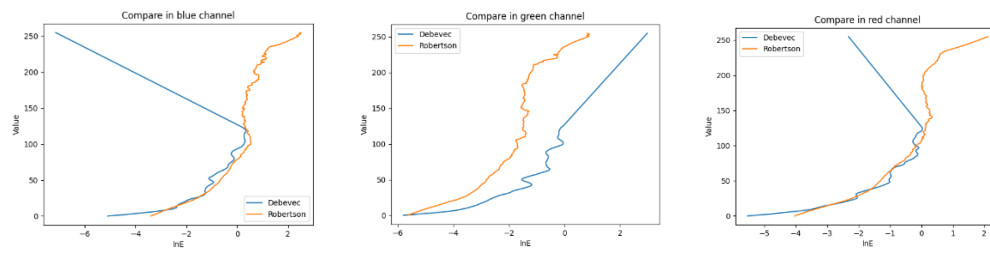
1. Global mapping
2. Local tone mapping per channel (image result use $\delta=0.25$)

Test Image result

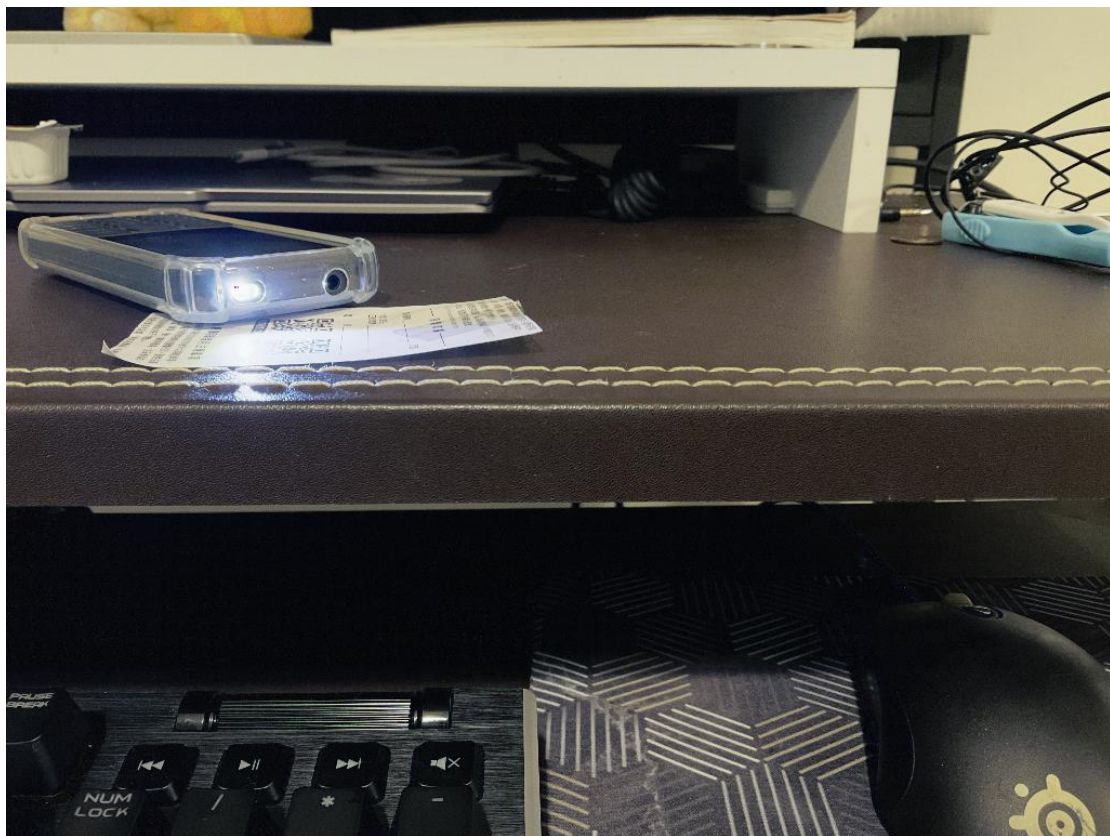


Collect Image result

HDR method comparison



We can see QRcode under the flashlight and also can see the iPhone Lightning wire in the dark region.



Conclusion

When I use iPhone to take different exposure images under Lightroom software, I found pictures we had taken were noisy. In this experience, we recommend using a DSLR camera to take a picture will get a better result.