

Depth Classification Examples

Brief Introduction

Left graph: Color image

Right graph: Depth image

3D Reconstruction: left -> right

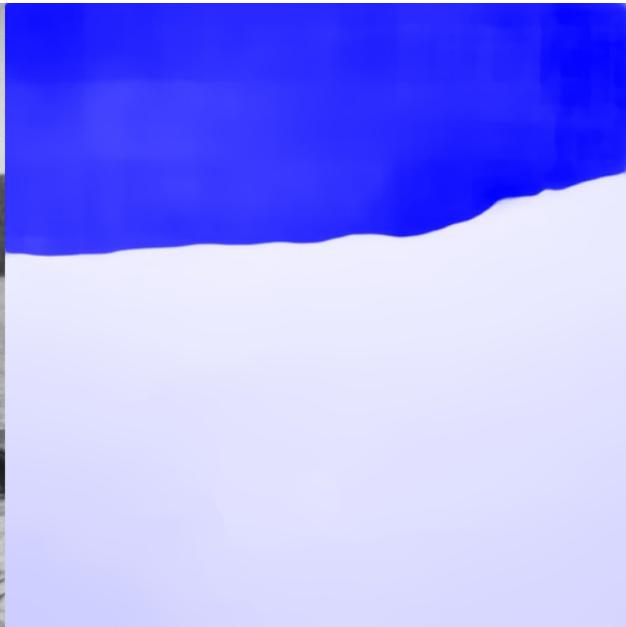
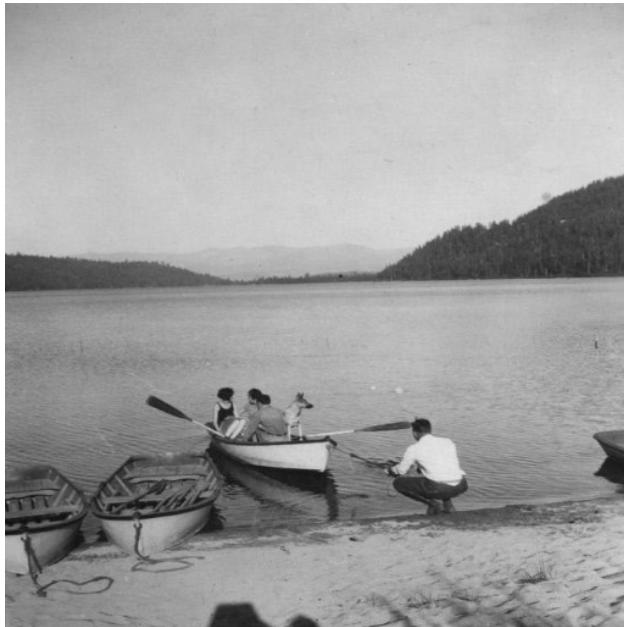
Blue – close

White – far

Classify photos into 5 categories:

- Flip
- All-Blue
- Bad: Should be on one plane and no sudden color change, but large or sudden depth change(color change in depth graph)
- Sky-but-not-bad
- Good
 - Light effect – consistent ok
 - Window – consistent ok

1. Flip Examples - The ordering of the depth is completely flipped



06803.jpg

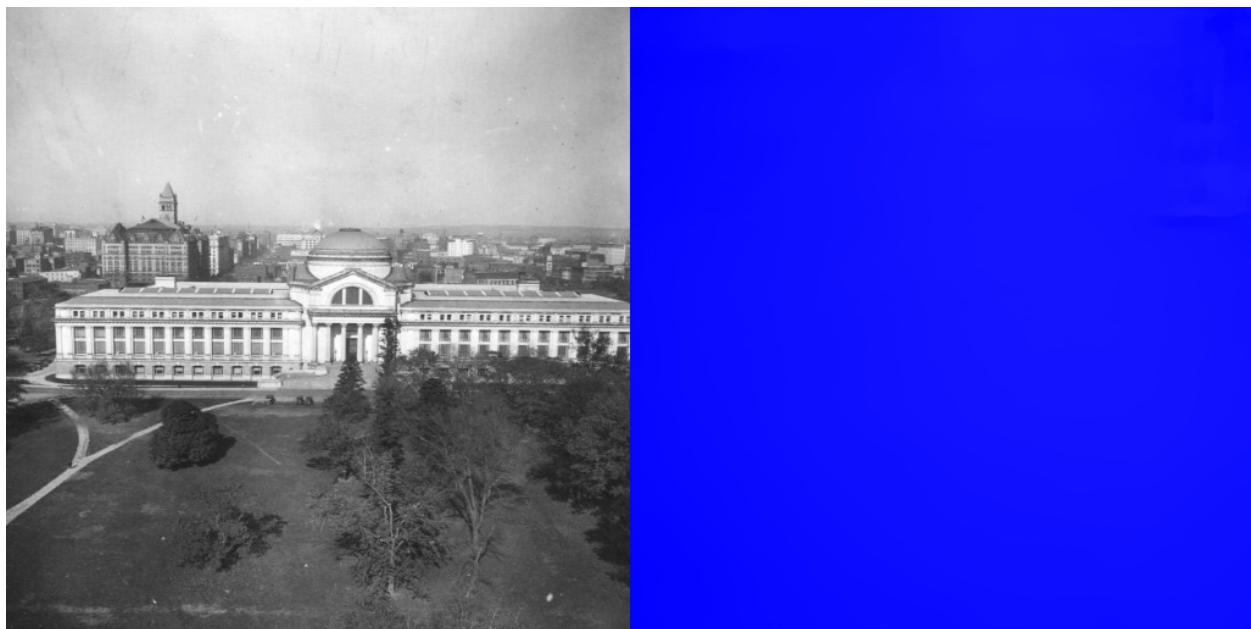


07955.jpg

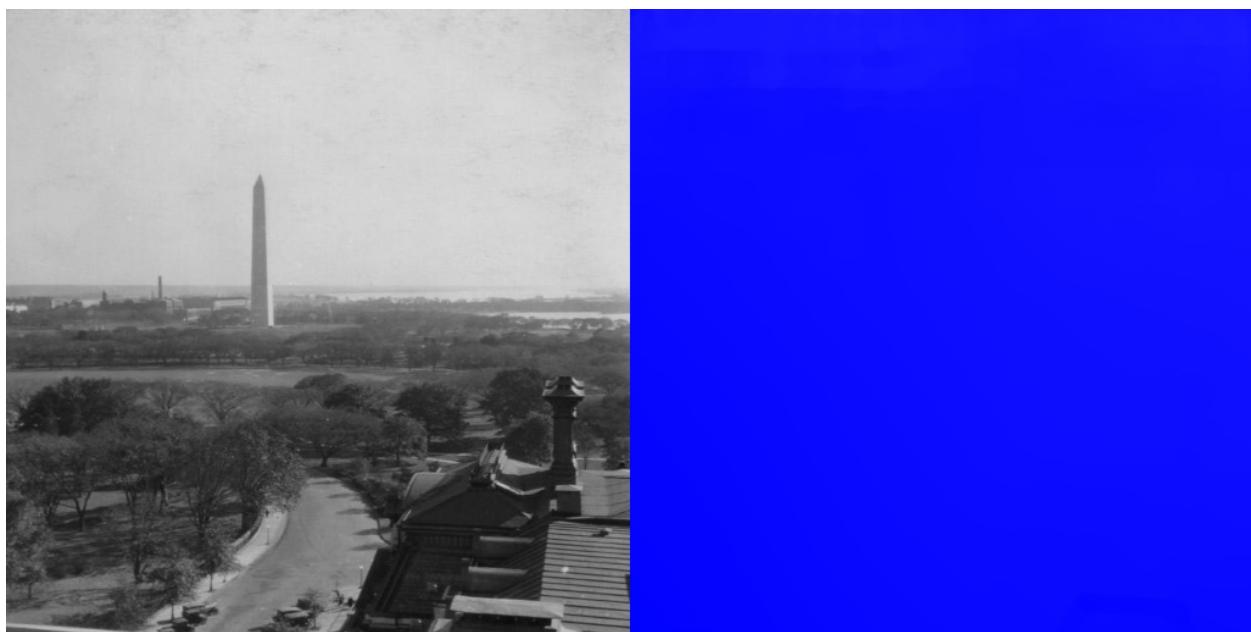


08449.jpg

2. All-Blue -- The Depth Image is not showing the depth at all



07199.jpg



07381.jpg

3. Bad -- Depth Image is not consistent with its Color Image –

1) Weird color change: while the objects in the Color Image are on the one plane(same depth) and the objects have no sudden color changes, the Depth Image has its corresponding part with large or sudden color changes(depth change)

2) The ordering of depth is partly reversed: while the object A in the Color Image are closer to the camera than object B, object B is bluer than object A in Depth Image

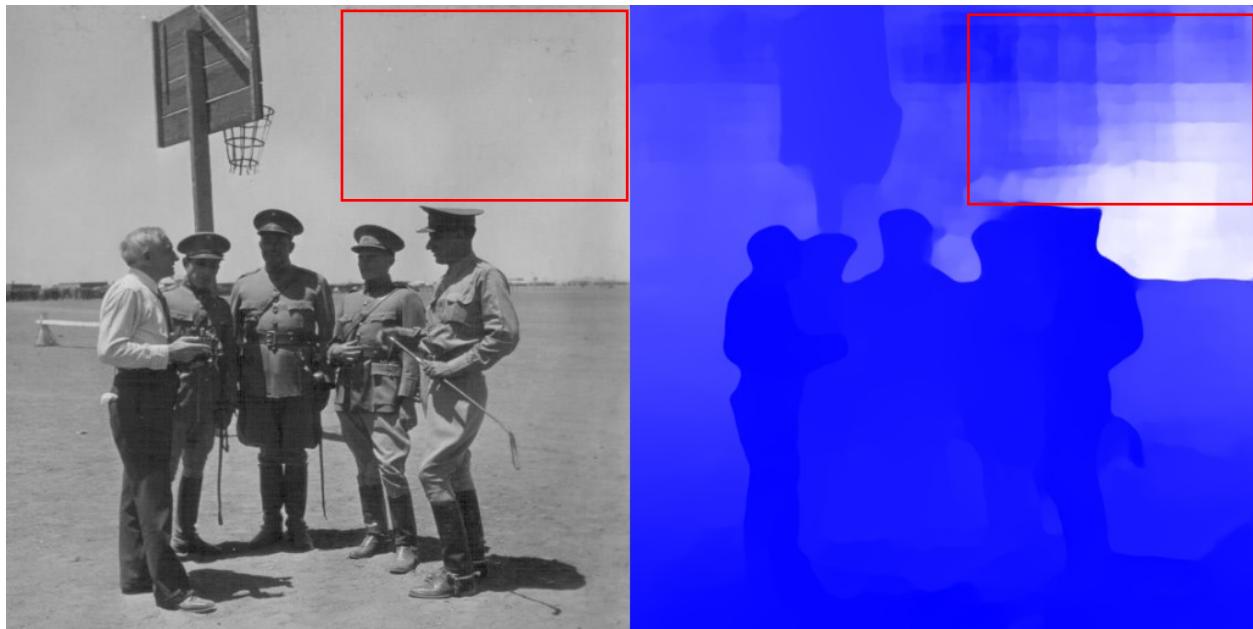
1) Weird color change examples:



05211.jpg



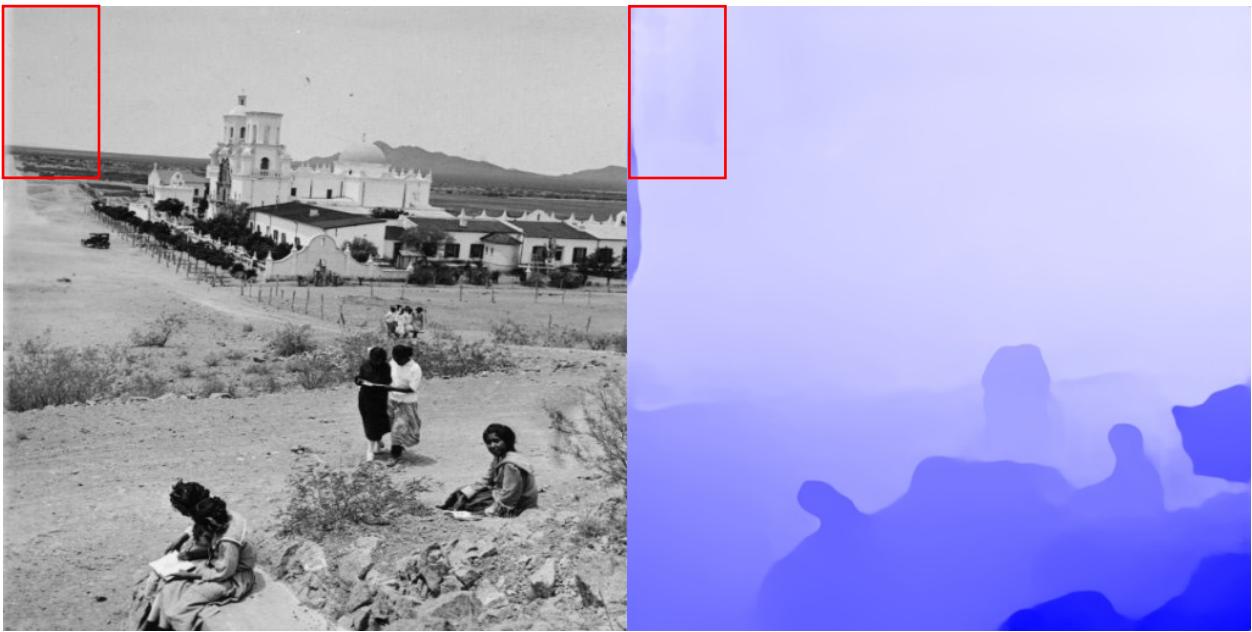
05295.jpg



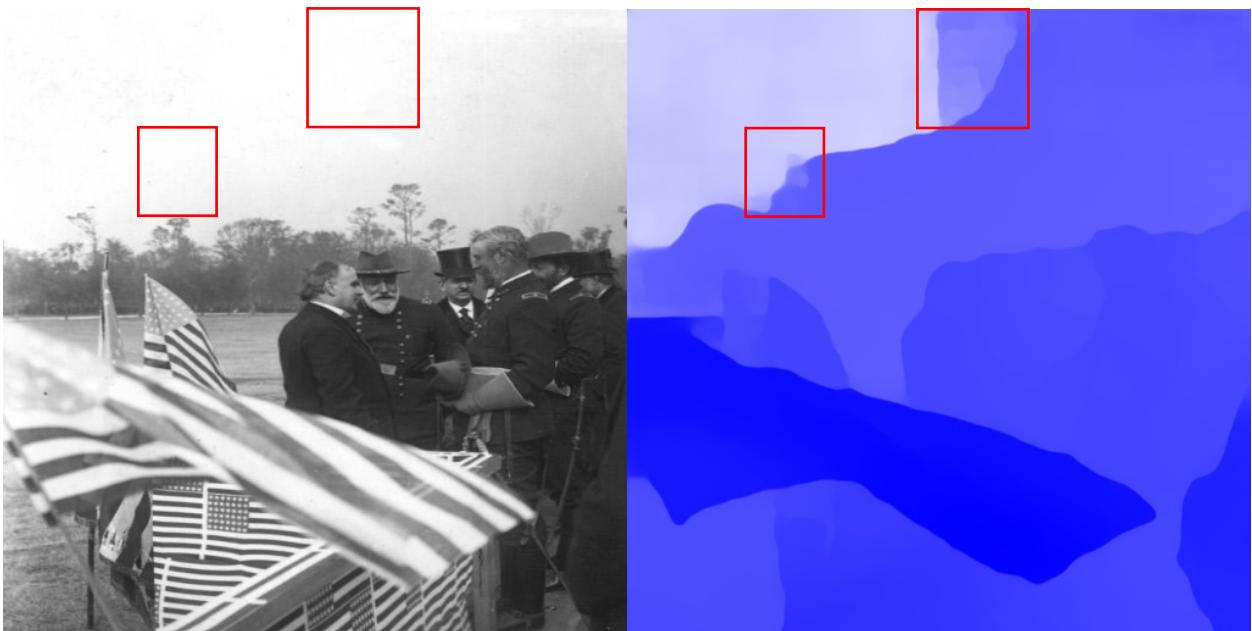
06249.jpg



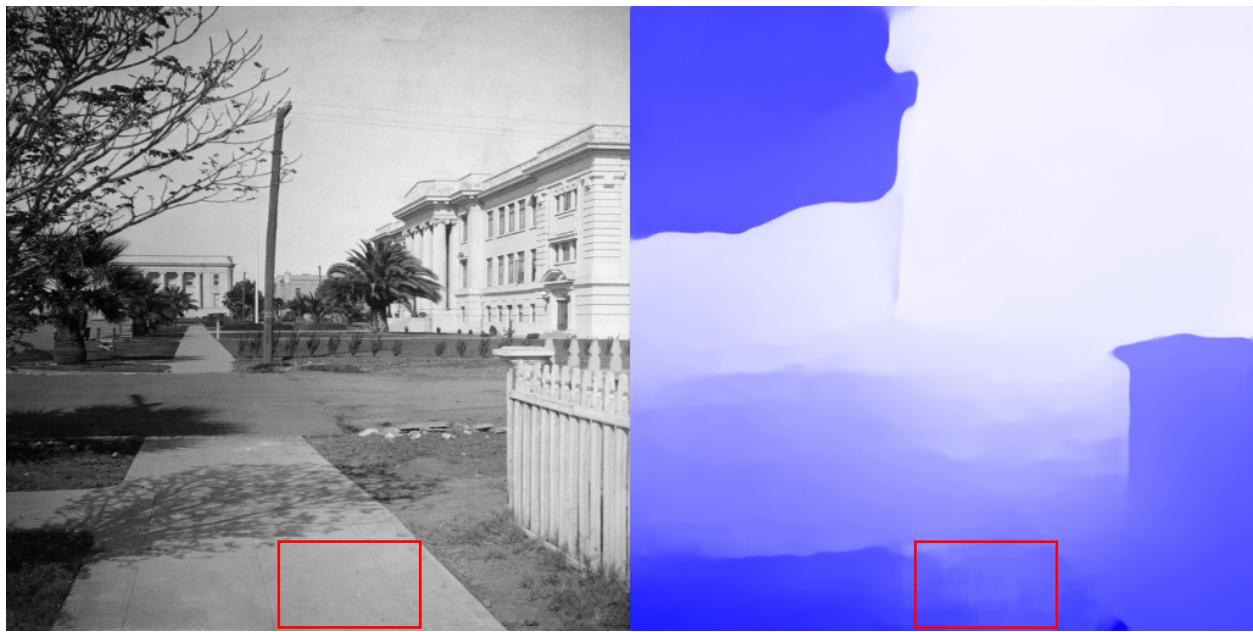
06475.jpg



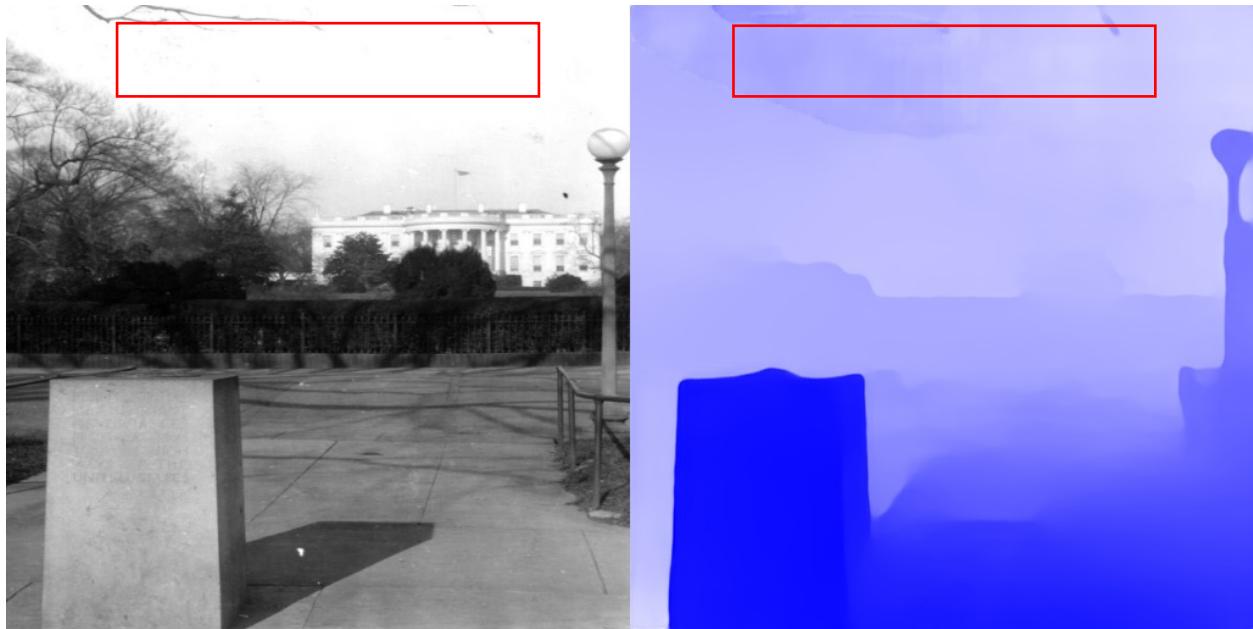
06509.jpg



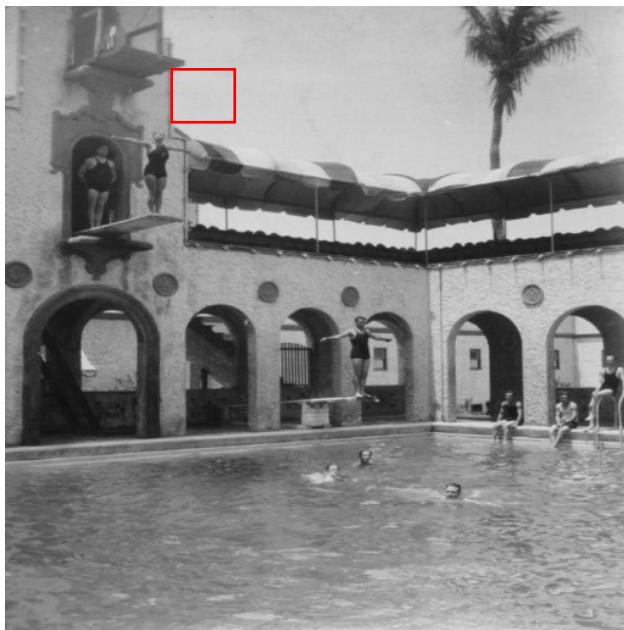
06931.jpg



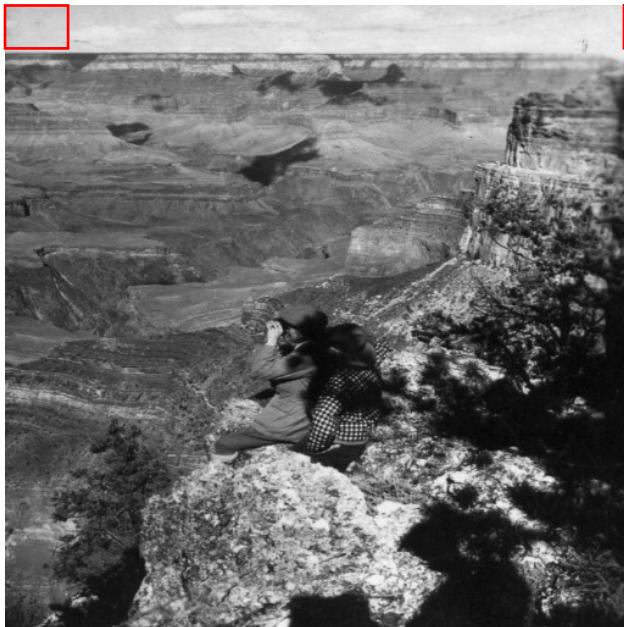
06829.jpg



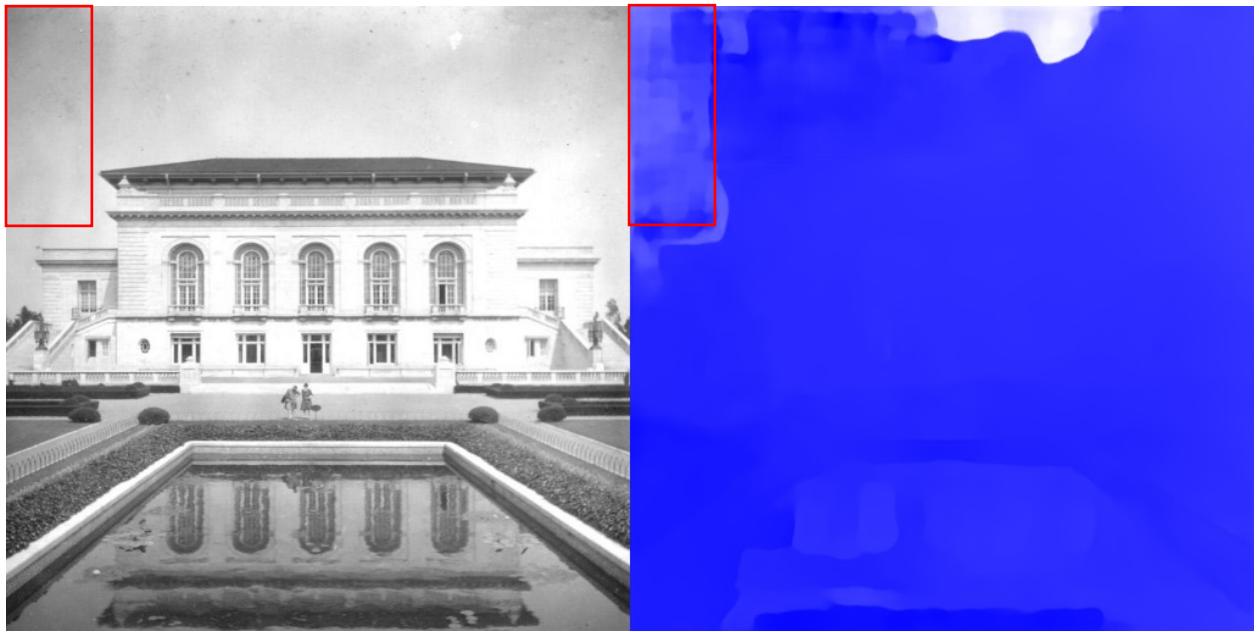
07257.jpg



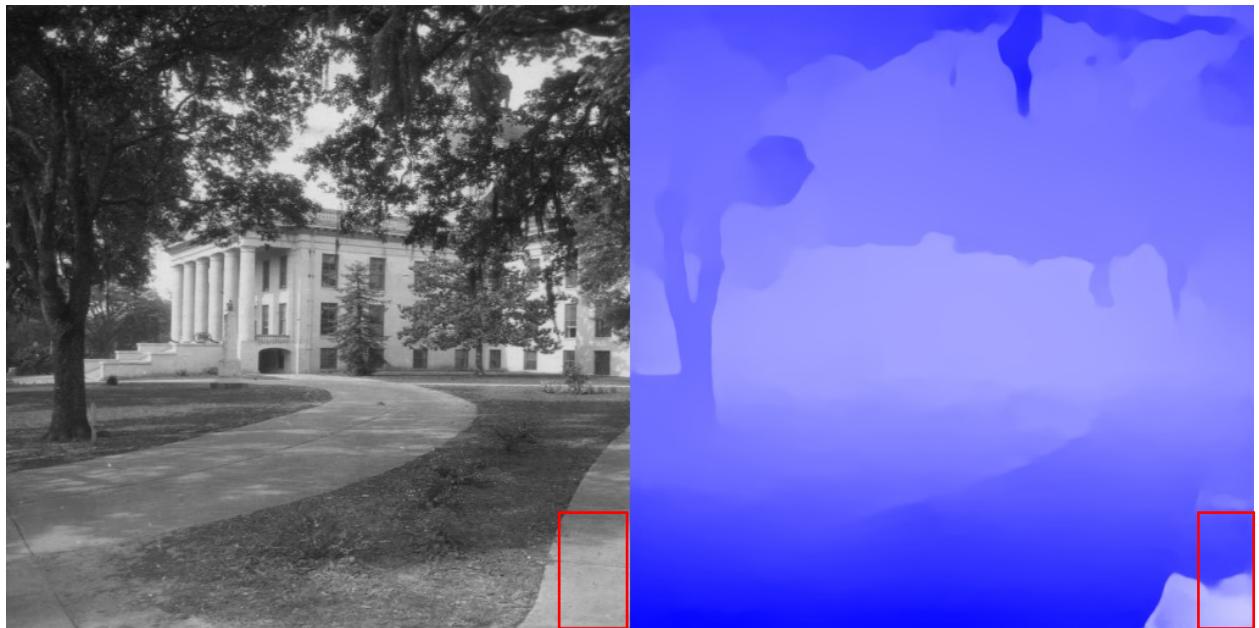
07877.jpg



06477.jpg



07215.jpg



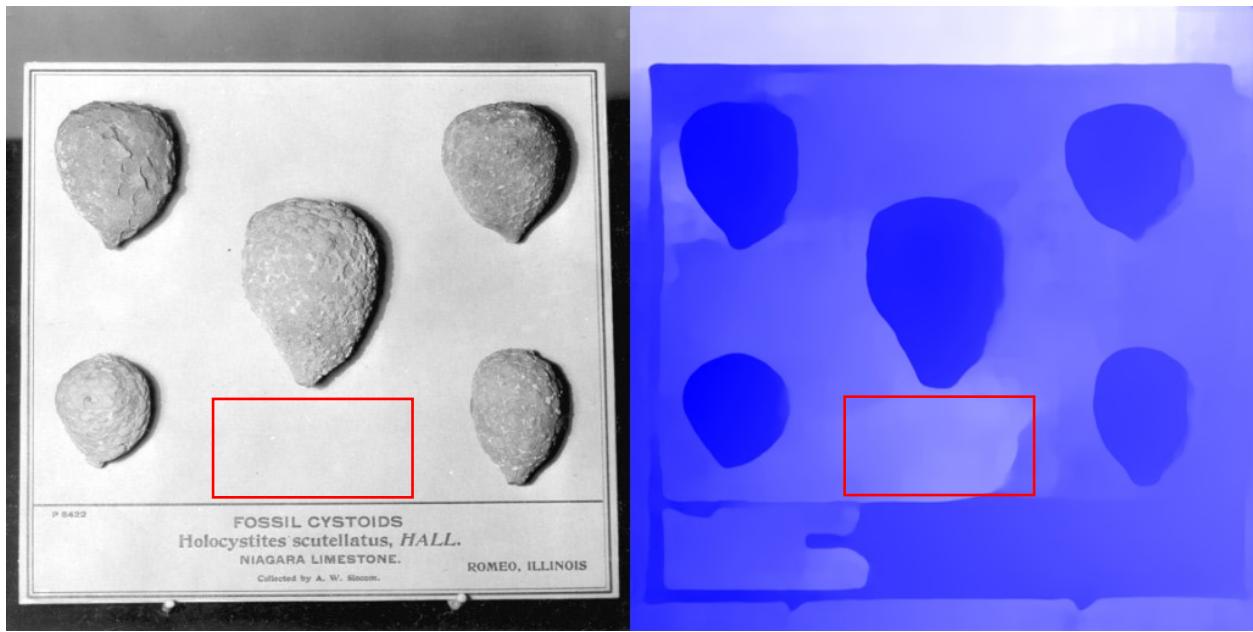
08143.jpg



08425.jpg

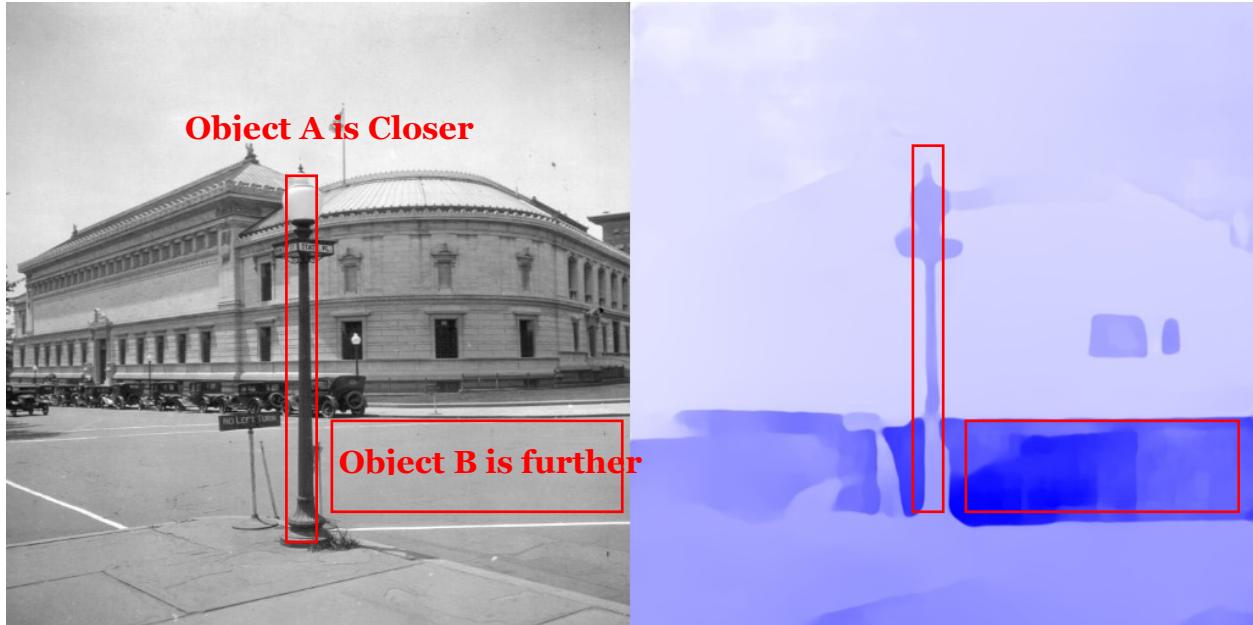


08945.jpg



09183.jpg

- 2) The ordering of depth is partly reversed



07099.jpg

Object B is further

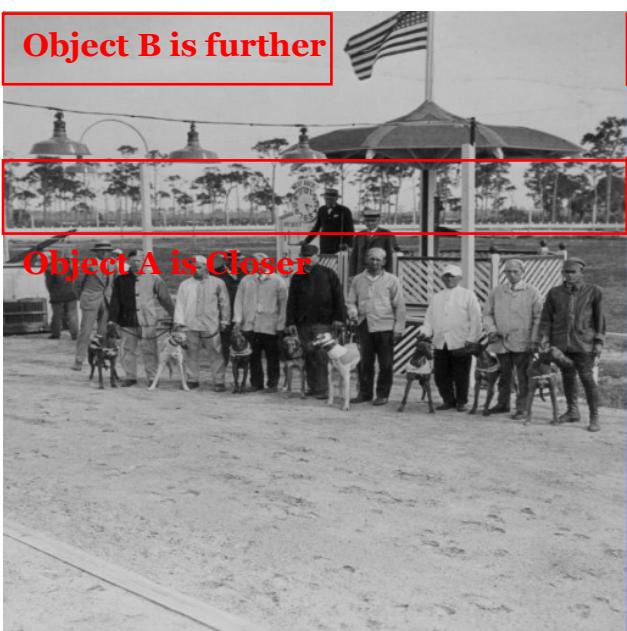


Object A is Closer

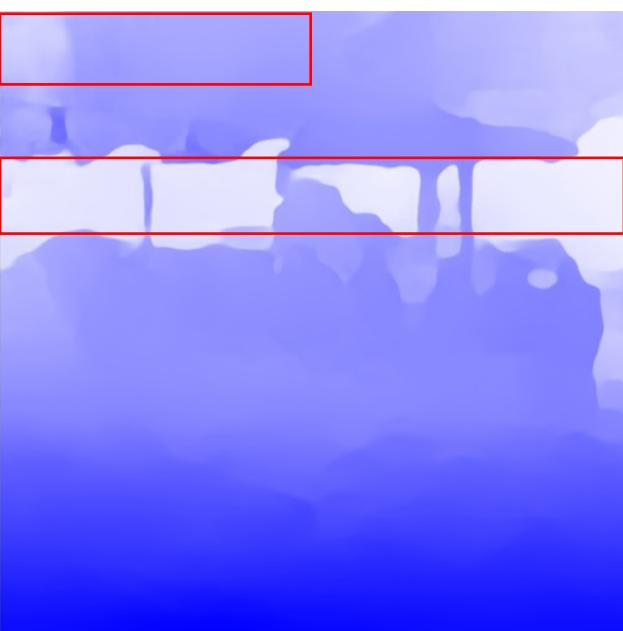


08707.jpg

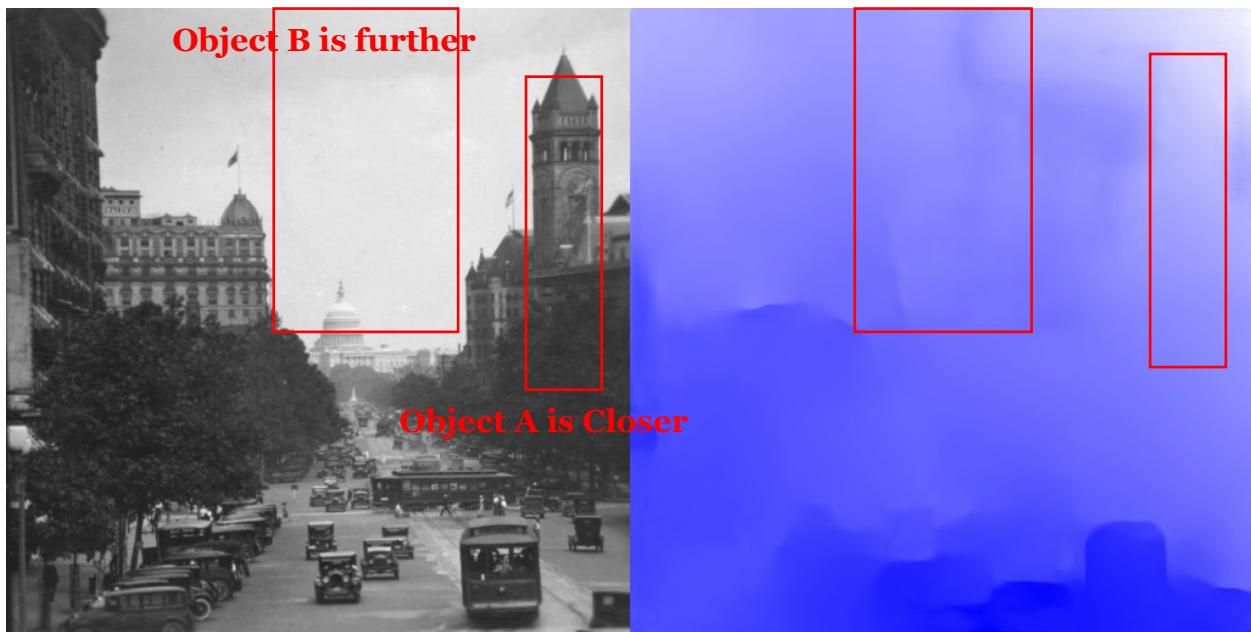
Object B is further



Object A is Closer



08379.jpg

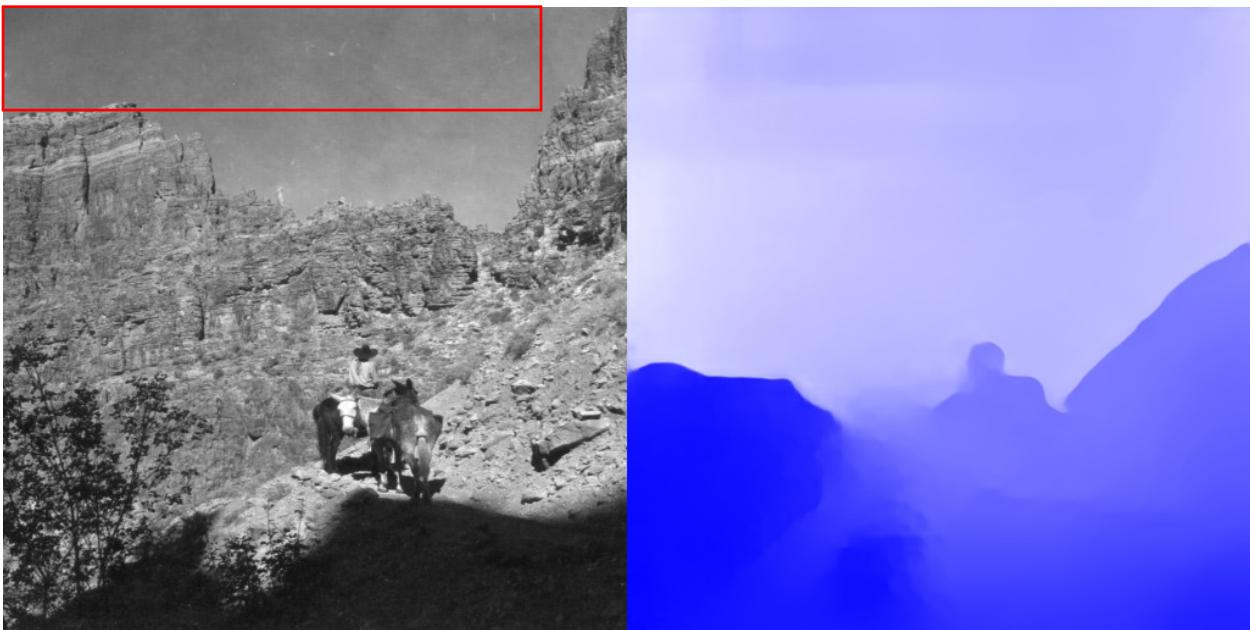


07411.jpg

4. Sky-but-not-bad -- The image was not classified as bad and the Depth image contains sky element(s)



06311.jpg



06497.jpg

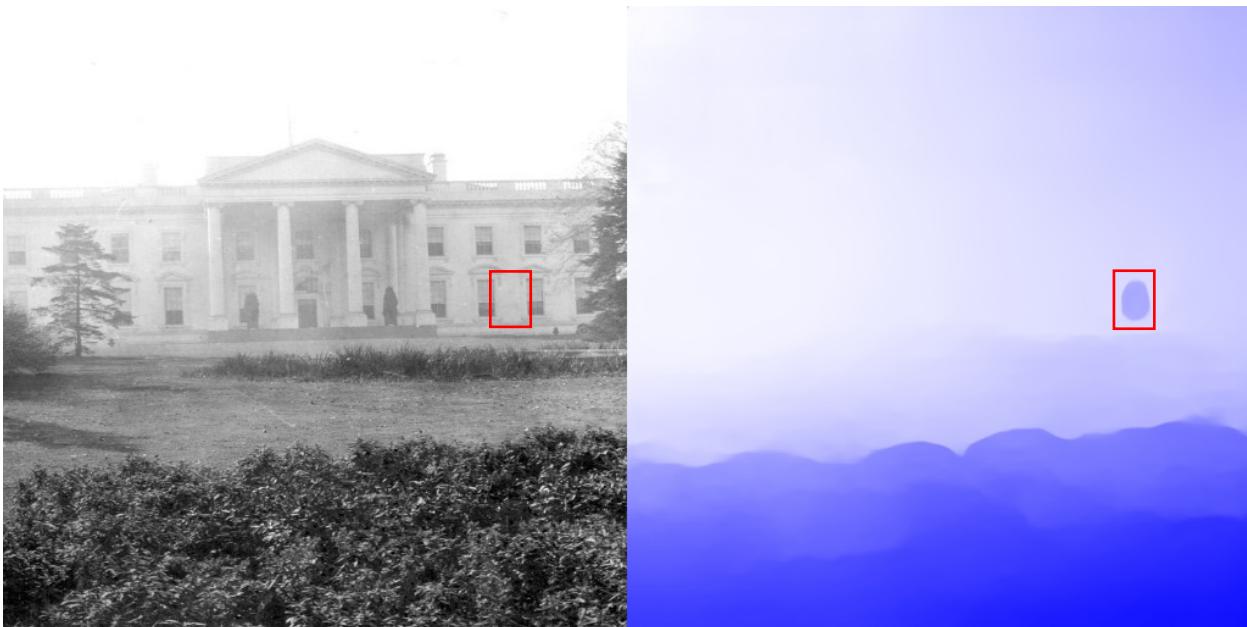


07255.jpg

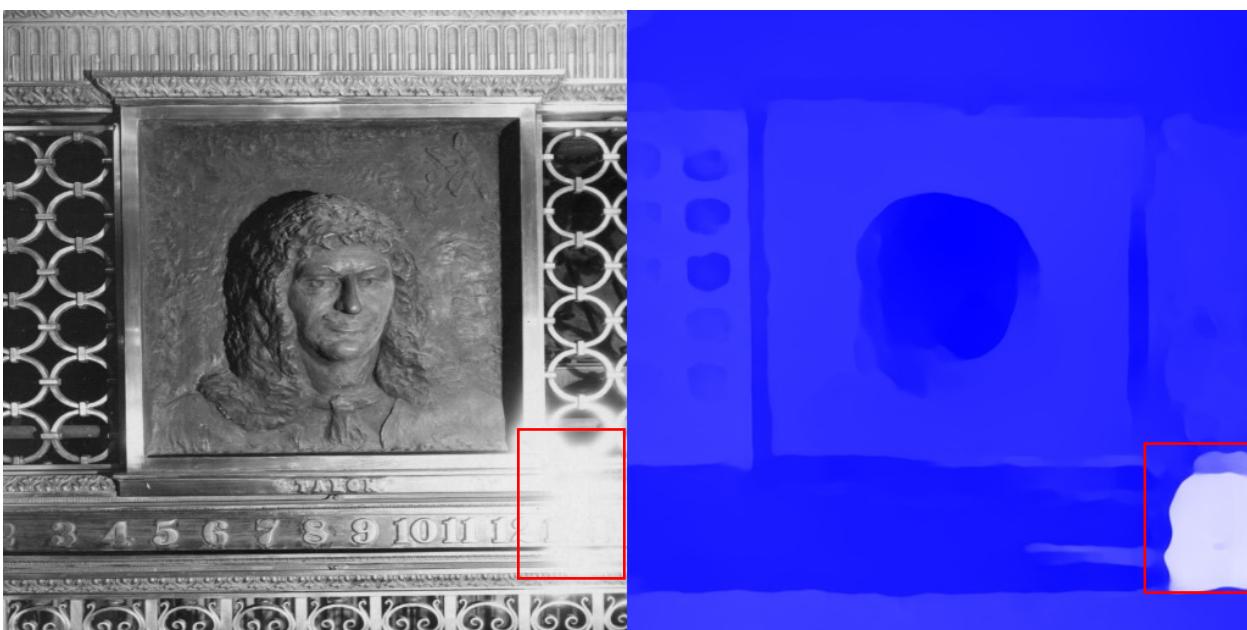


08515.jpg

5. Good -- The Depth Image is consistent with the Color Image even with the light effect or windows/water's reflection effect
- 1) Consistent depth match



07251.jpg

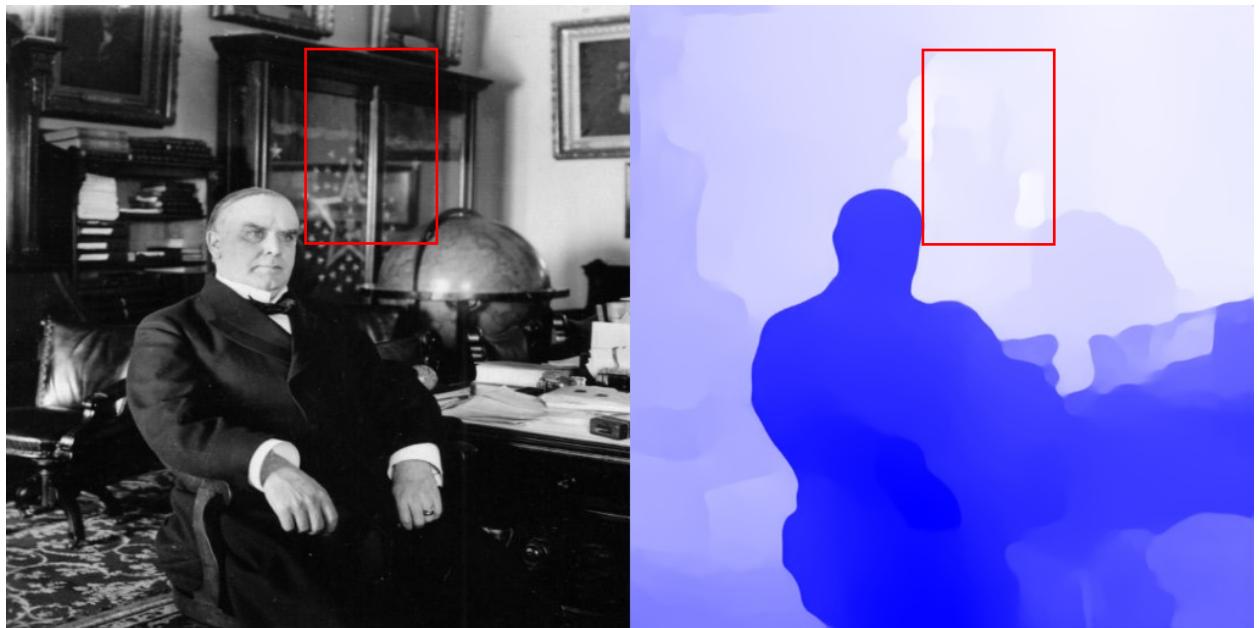


08651.jpg

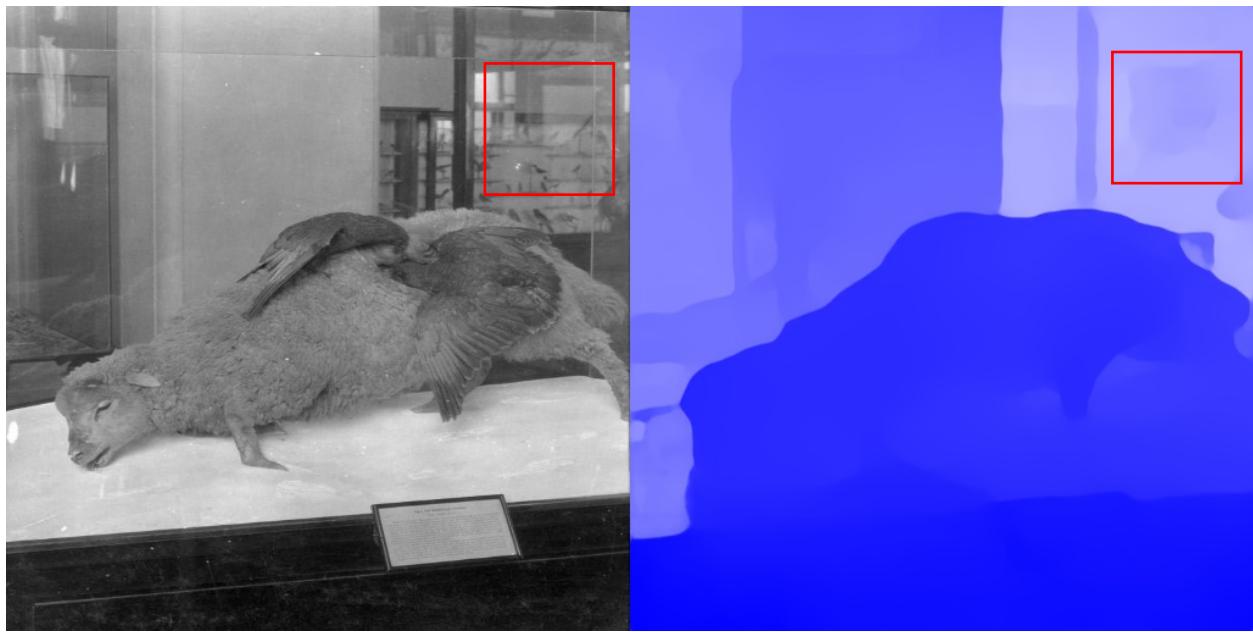


07311.jpg

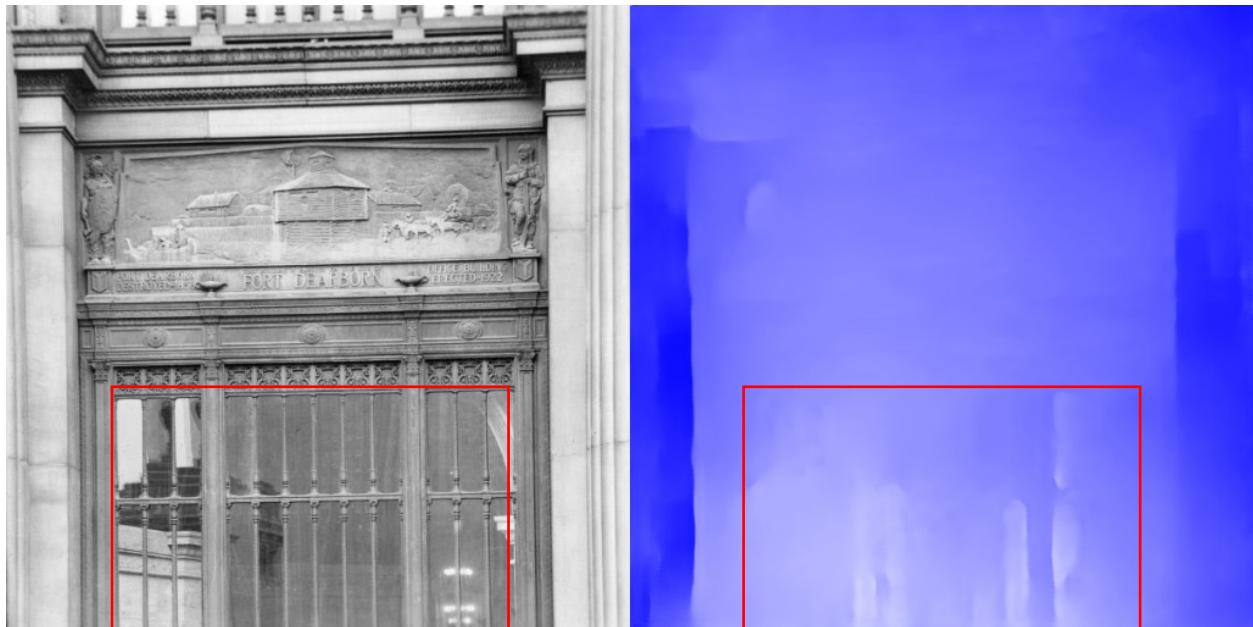
2) Consistent Mirror's reflection effect



07067.jpg

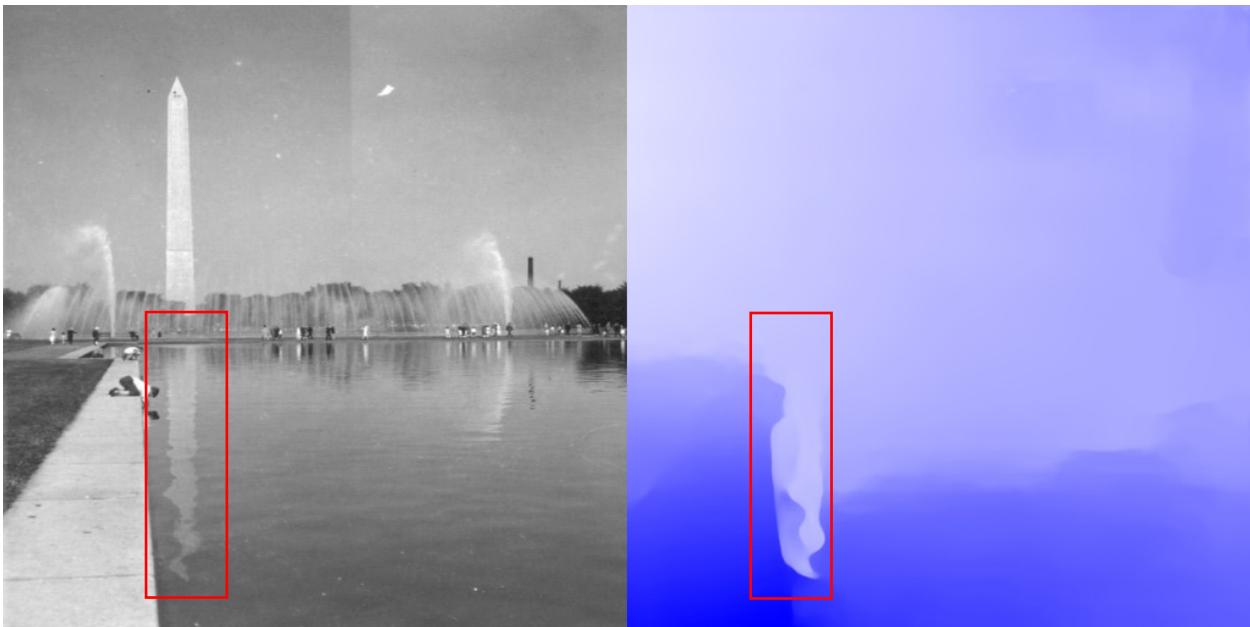


07029.jpg

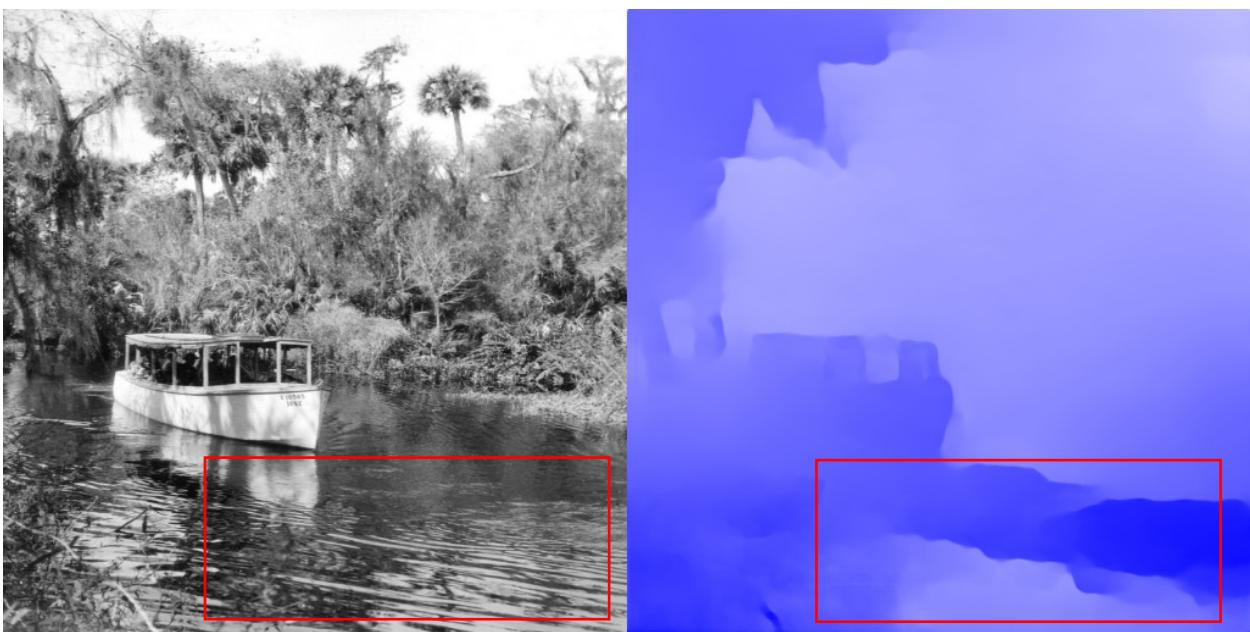


09083.jpg

3) Consistent Water's reflection effect



07367.jpg



08427.jpg

3) Smooth outline



07981.jpg



08077.jpg



08501.jpg



08547.jpg



08569.jpg