

# CSC320 Assignment3 Lab report

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In this report, I will discuss the image inpainting, Evaluate the inpainting results of two image I chose and some discussion on the artifacts showing.

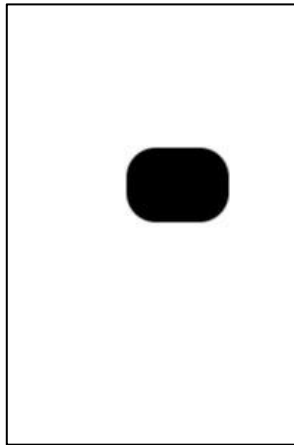
Here are the two images, masks and the inpainting results.

a

Source image 1



Mask 1



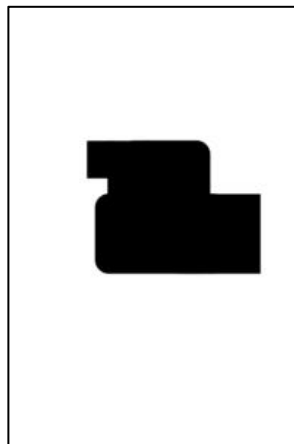
Inpainting result 1



Source image 2



Mask 2



Inpainting result 1



## Observation on image1

From source image 1 we can tell the airpod case on marble table is totally wiped out in the resulting inpainting picture. If we only look at the resulting picture, we can barely find out the existence of any trace for the airpod case, it can be fairly regarded as just a smooth empty marble table surface which makes it a good case for inpainting.

## Observation on image2

Then we take a look at resulting inpainting picture 2, it is clear that this picture has been processed, there's distinct color blocks in the filled place, the wall background also has a cut in the middle with different color. In addition, there's a clear shadow of the shoes stayed in the filled place.

## Reasons Existence of Artifacts

There could be a lot of reasons that the second image has a very clear sign of artifacts. Firstly, the angle that I take this photo is not perpendicular to the surface of the wall, while I did this for image1. This angle may affect the line segments in pictures, they are not shift-invariant, therefore the connections between the lines might be broken in the inpainting process. Secondly, there's a shadow behind the shoes which makes the color near the filled patch not uniformly distributed, which will also affect every single filling step in the inpainting process. And the last point is that, we can see there's also a shadow of the photographer at the bottom of the picture. Since the inpainting process calculates the patterns in the whole image, therefore this clear color change feature may also affect the process.