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CS 445 - Project 2: Image Quilting

Total Points Claimed **[100] / 175**

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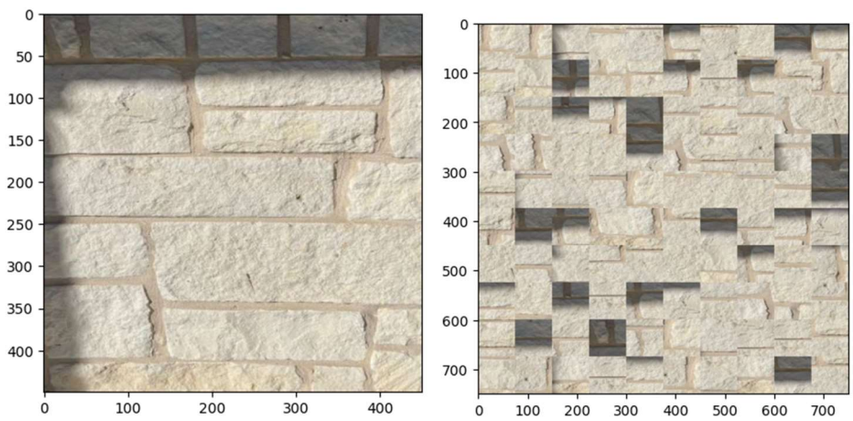
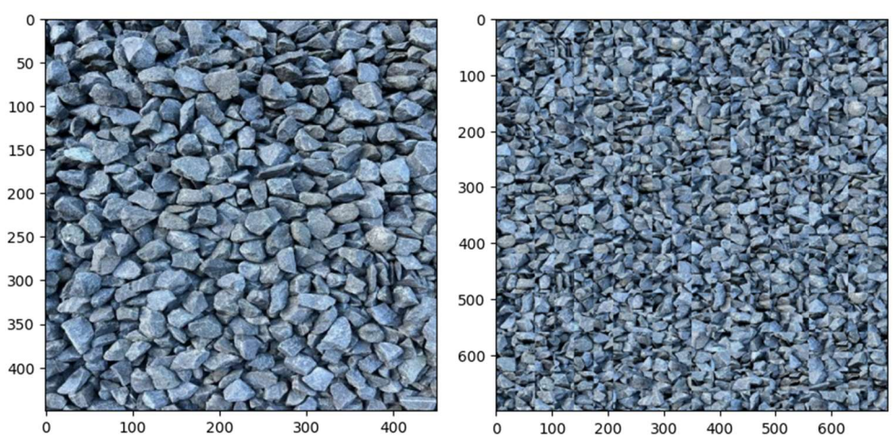
1. Randomly Sampled Texture

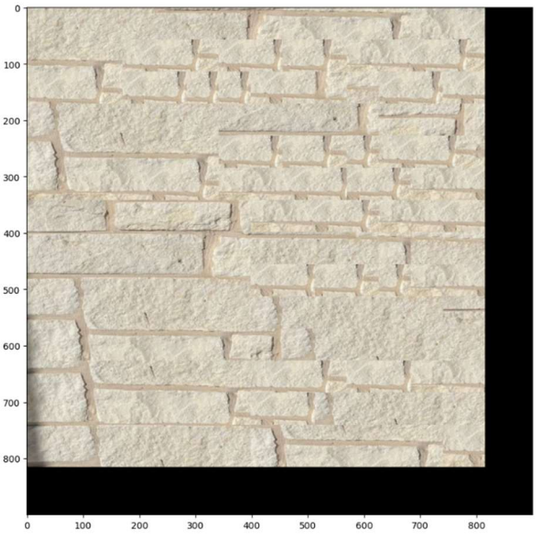
out_size = 750 patch_size = 75



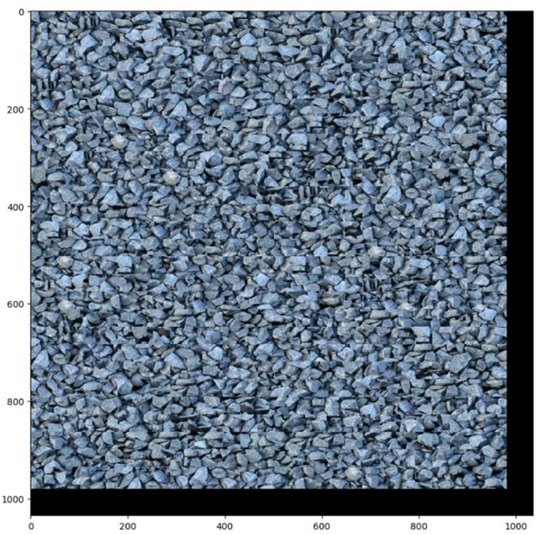
out_size = 700 patch_size = 35



2. Overlapping Patches

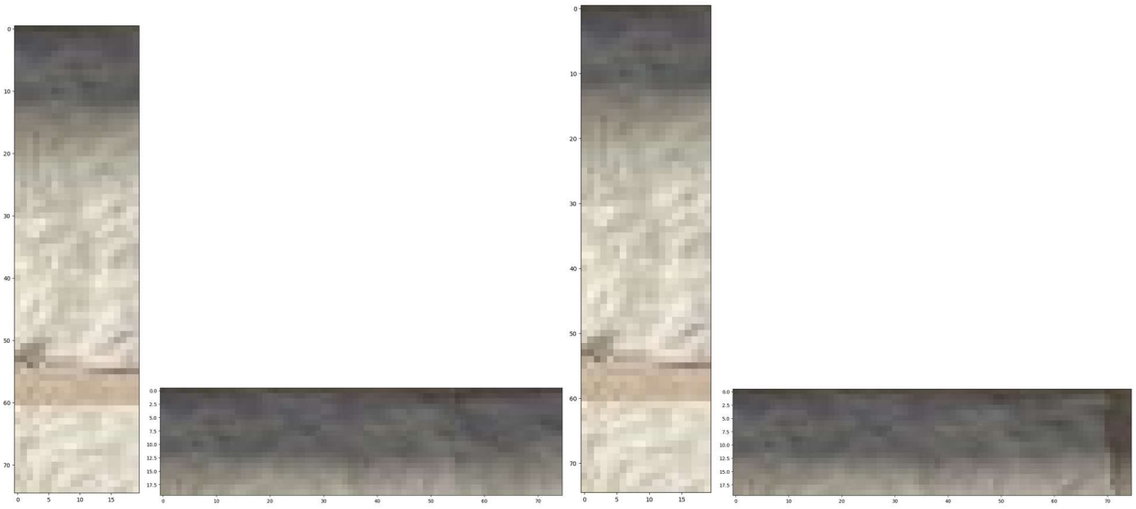


out_size = 900
patch_size = 75
overlap = 18
tol = 2



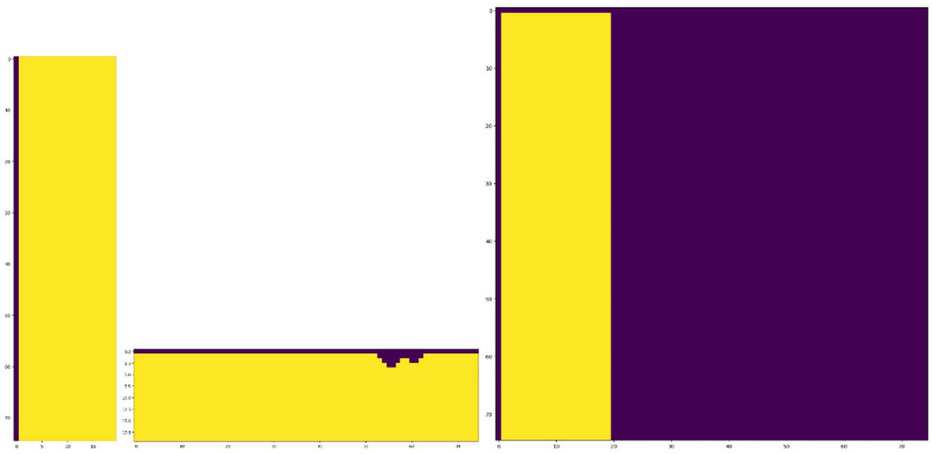
out_size = 1035
patch_size = 45
overlap = 9
tol = 7

3. Seam Finding



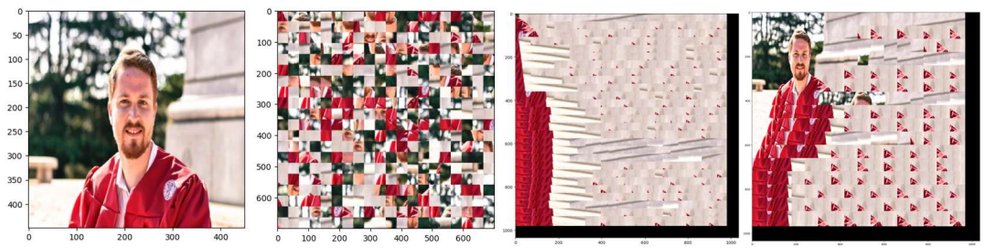
```
SSD_Y =
[[0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]
 ...
 [0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]
 [0. 0. 0. ... 0. 0. 0.]]

SSD_X =
[[0.         0.         0.         ... 0.00083045 0.00230681 0.00438293]
 [0.         0.         0.         ... 0.02868128 0.01911572 0.01084198]
 [0.         0.         0.         ... 0.02272972 0.02277586 0.01897732]
 ...
 [0.         0.         0.         ... 0.01986928 0.03297193 0.02615917]
 [0.         0.         0.         ... 0.03297193 0.03055748 0.02197616]
 [0.         0.         0.         ... 0.07166474 0.03475586 0.03243368]]
```



4. Additional Quilting Results

Two were done throughout the whole thing. Though here is one additional one that shows its difficulties.



5. Texture Transfer

Texture transfer is very similar to the above Seam Finding method. You will sample from a texture you want to transfer an image that will appear with that texture (your guidance image). As you sample both images you make a mask as similarly above for the output (next patch) and an impulse mask for the guidance. You then get their SSD against the sample image and use a weighted SSD alpha * SSD_overlap + (1 – alpha) * SSD_guidance to get the total SSD for the synthesis. Using this you then can use the texture pattern and color to start to build an image that looks like the guidance. Using the cut method from finding the seams we can better get those details as well.