CIS 580 Project 3 Part C

Video Mosaicing

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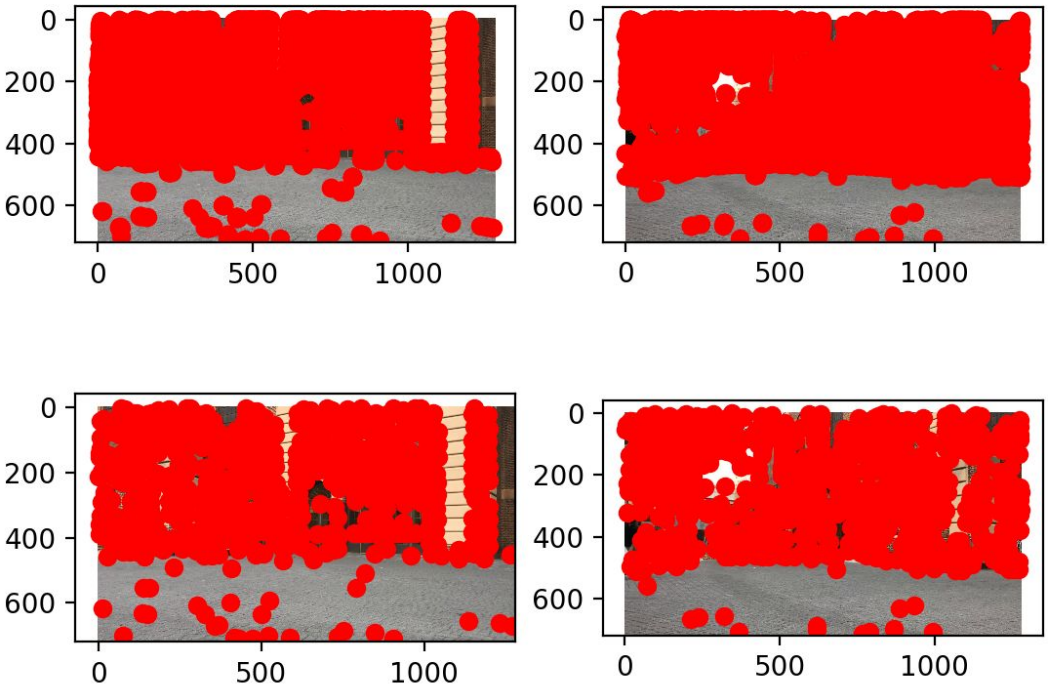
Results

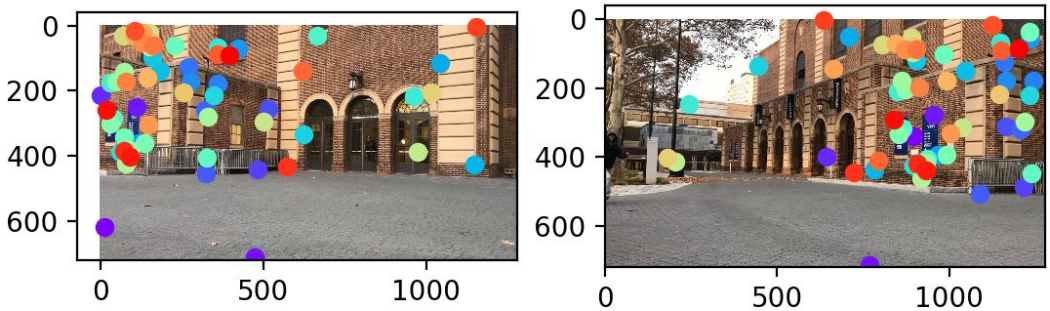
Two figures to be stitched are shown in left and right columns separately in each image, from Frame 20 to Frame 100, as follows.

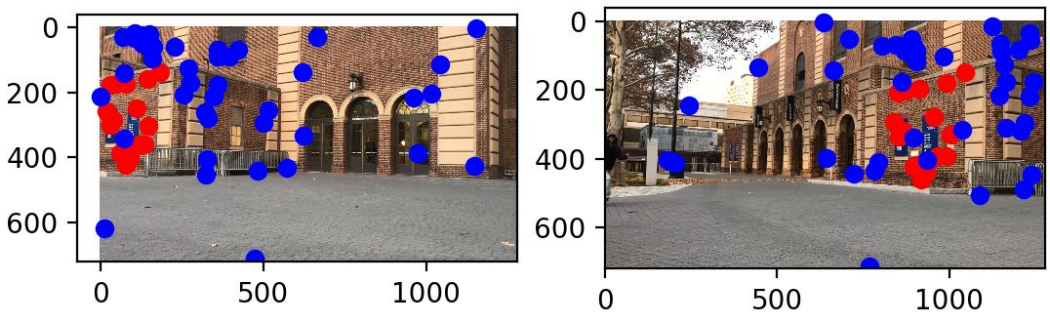
Each column (from the top to the bottom) has the results of

- Corner Detection (detected features shown in red dots),
- Non-maximum suppression (features after non-maximum suppression are shown in red dots, here we set the number of output features as 700),
- Match (features with same color are matched as a pair),
- and RANSAC (features with red dots are inliers, while those with blue dots are outliers).

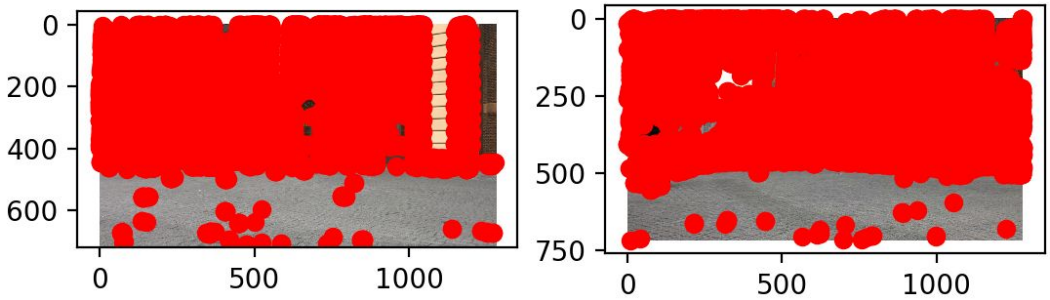
Frame 20




0
200
400
600
0
500
1000


0
200
400
600
0
500
1000

Frame 40


0
200
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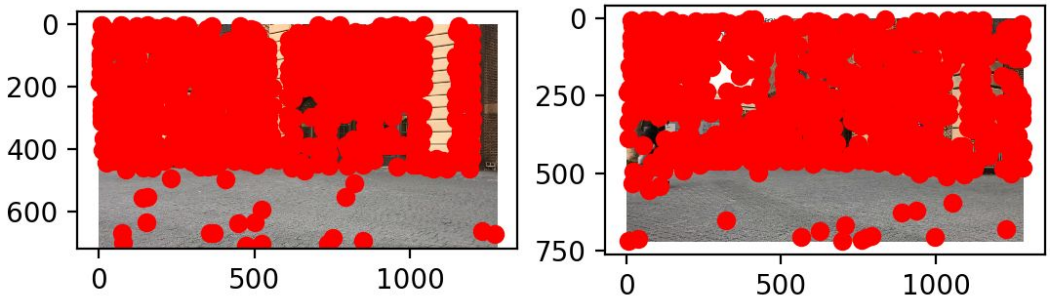
600
0
250
500
750
0
500
1000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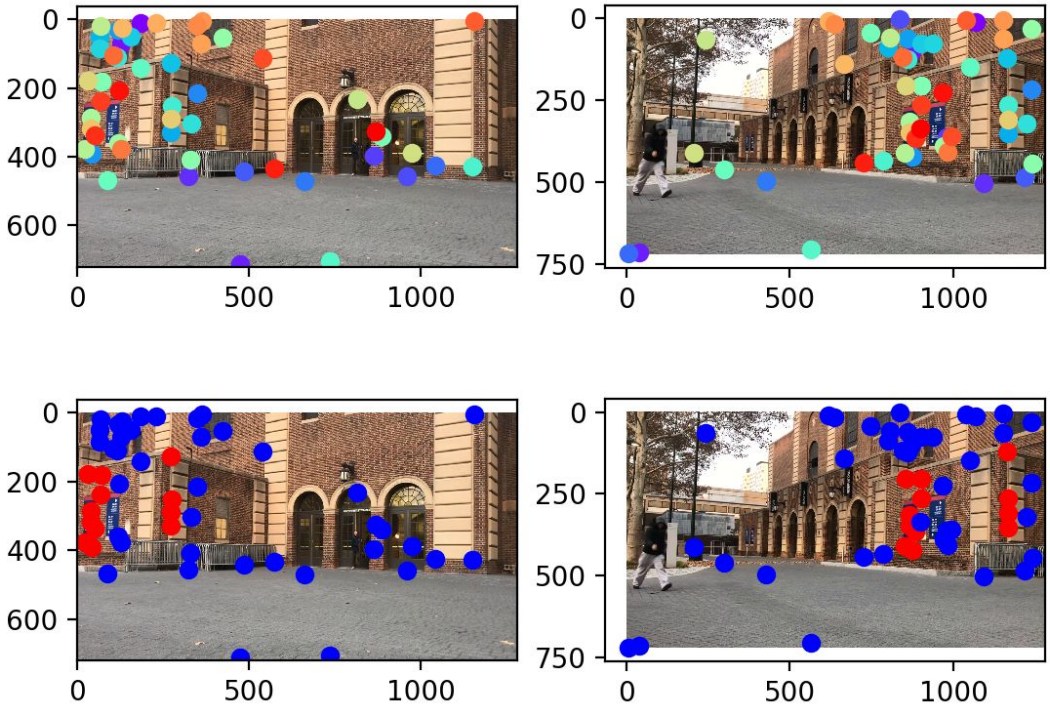
250
500
750
0
500
1000


0
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600
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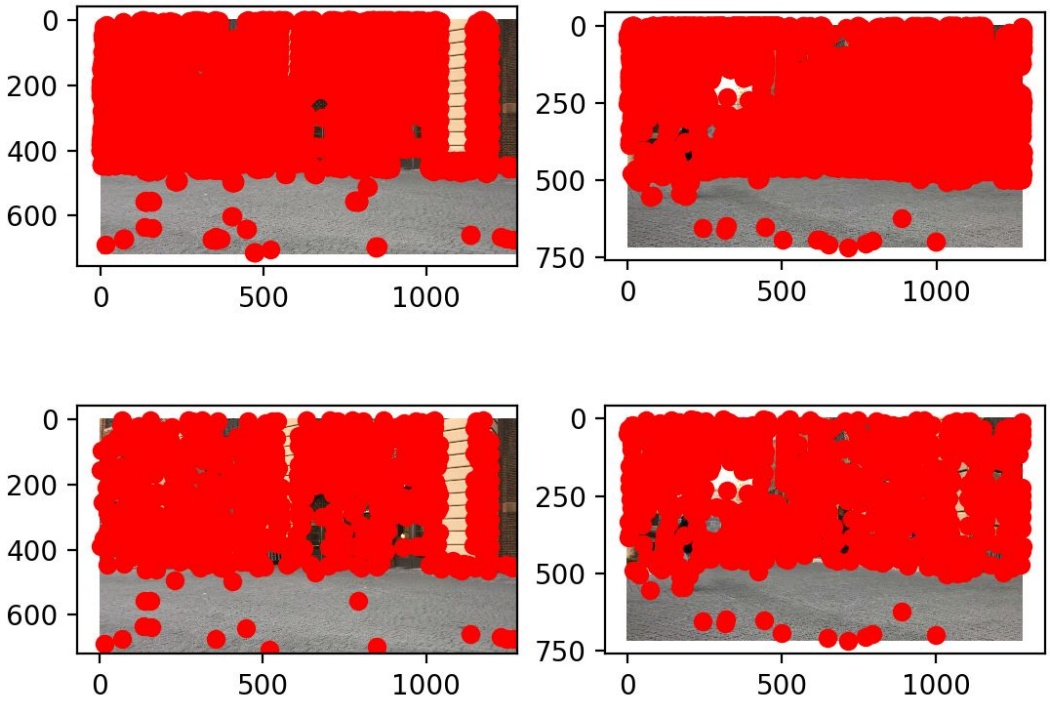
1000
0
250
500
750
0
500
1000

Frame 60


0
200
400
600
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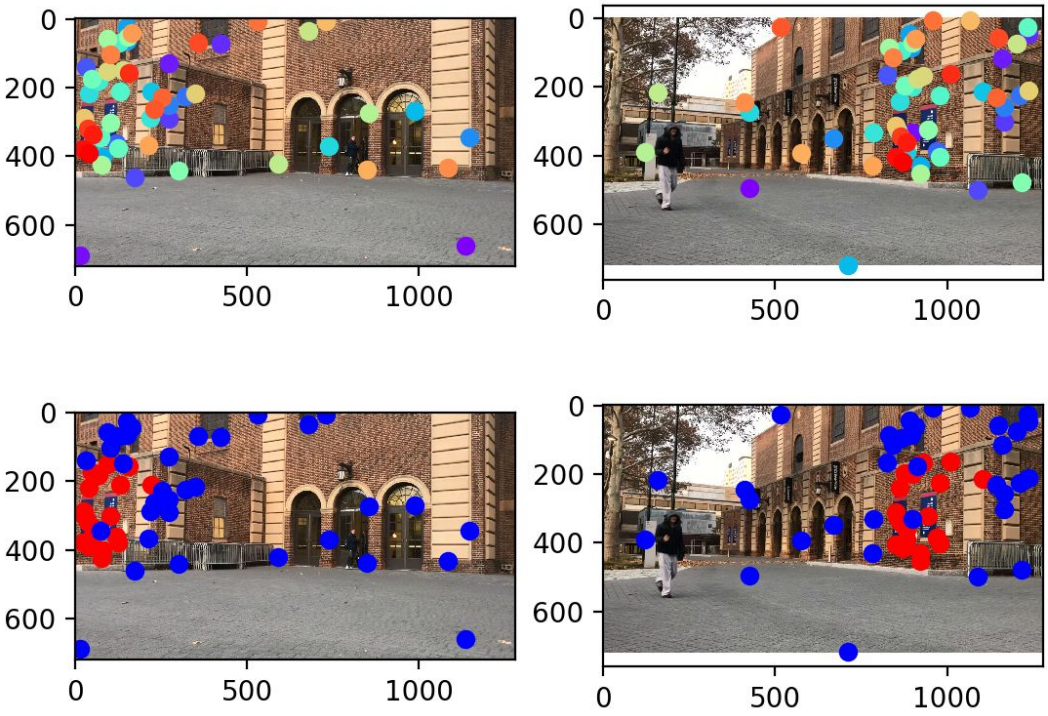
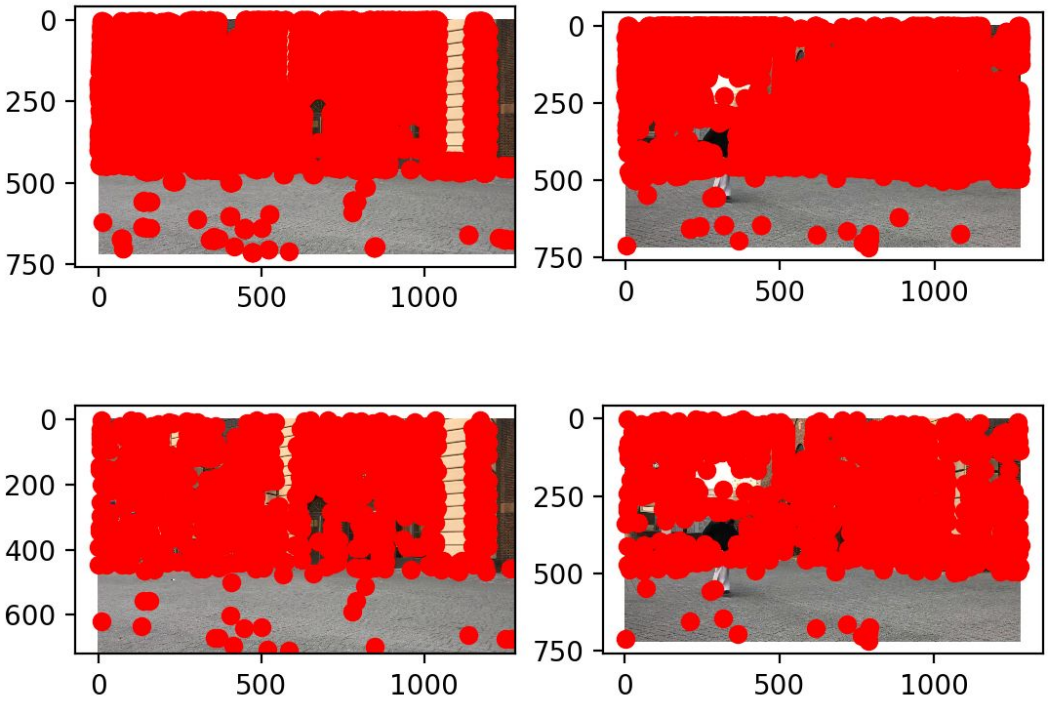
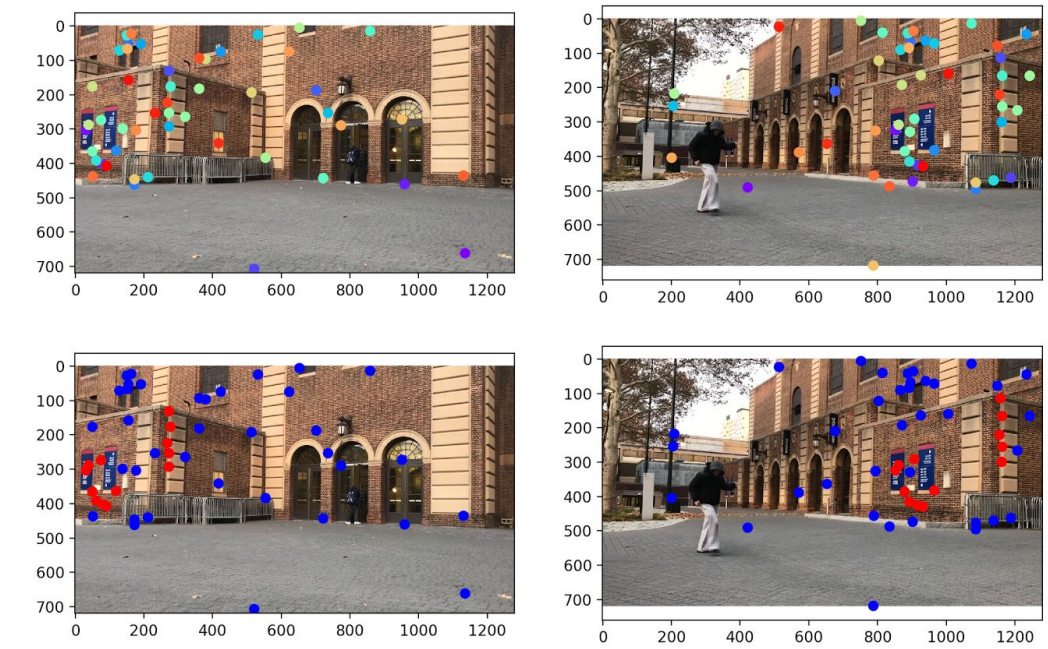
500
1000
0
250
500
750
0
500
1000

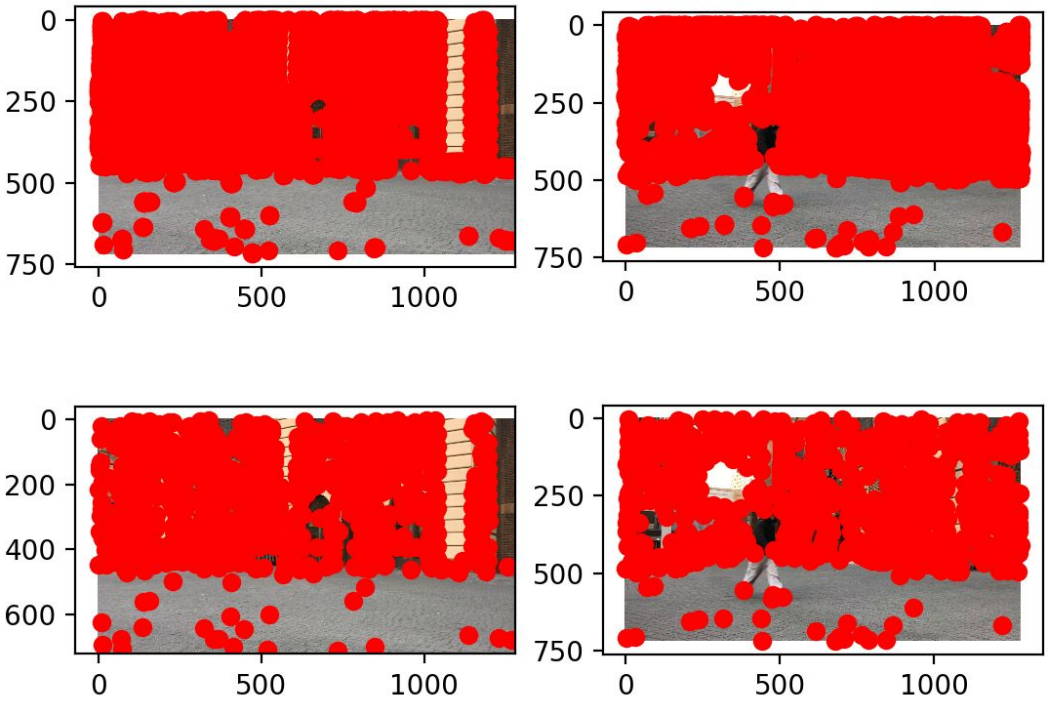


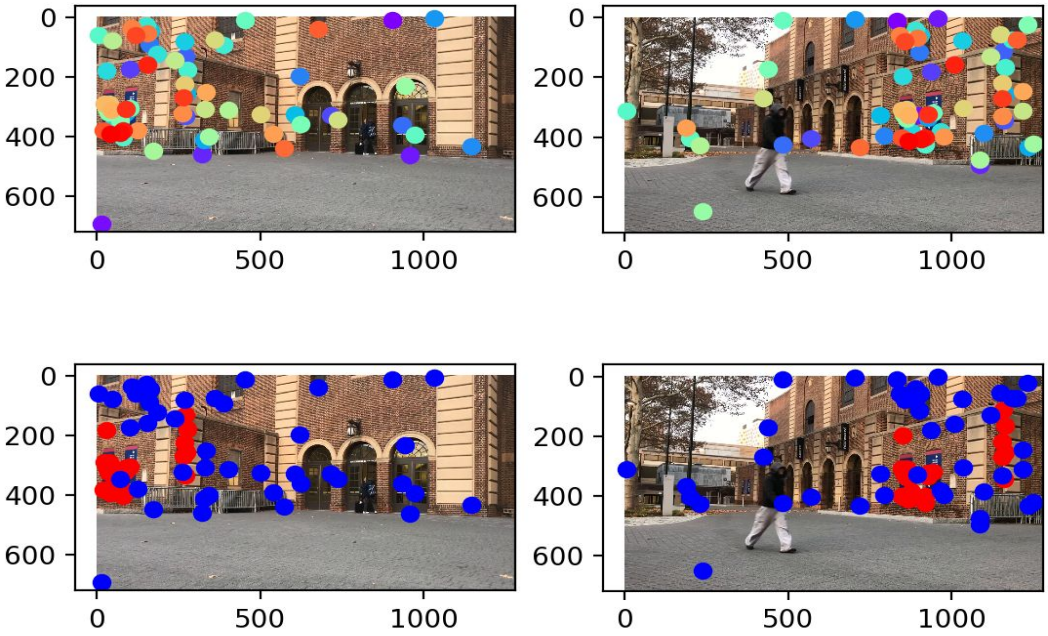
Frame 80





Frame 100





References to third-party code:

1. Imageio: used imageio to extract frame from video
2. Skimage.feature: used cornere_harris function to detect corners
3. Cv2.dilate: used cv2.dilate function to avoid black hole problem
4. Ffmpeg: used ffmpeg to generate video