Report HW3 CAP 6419 3D Vision

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SOURCE CODES:

To run the code, please run the **mosaic2.m** file.

This is the final file that gave me good results. However, some other files that I have tried didn't give good results/not coded fully.

Peter's MATLAB function: ransacfithomography.m

To compute the homography by using ransac algorithm between two-point correspondences x1, x2

Function: normalise2dpts.m

Helper function to ransacfithomograph.m to normalize pts using sqrt (2)

Package: vlfeat

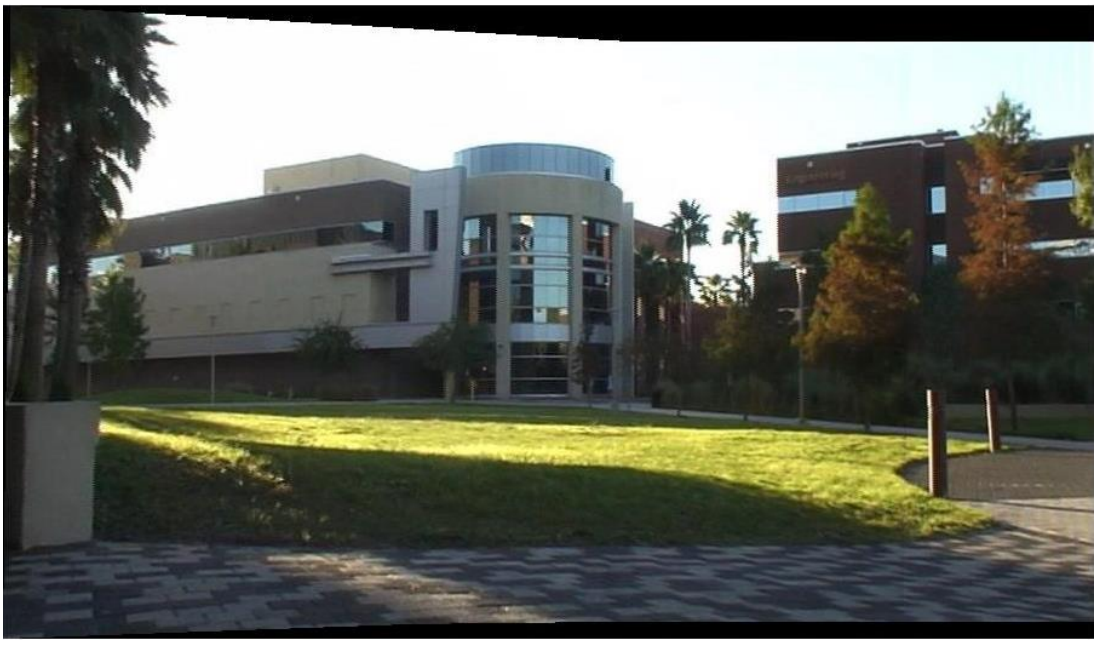
This package was used initially to get vl_sift features but, the results were not pleasing.

This package might need to be run before for running other files other than mosaic2.m

PANORAMIC OUTPUTS:

Montage Sequence 1:

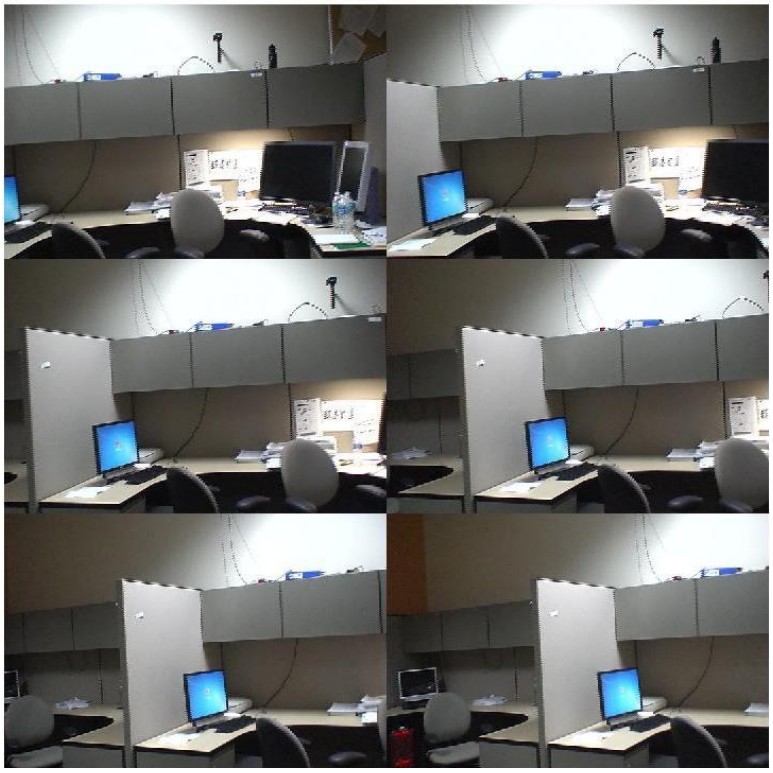
Panoramic of Montage 1:



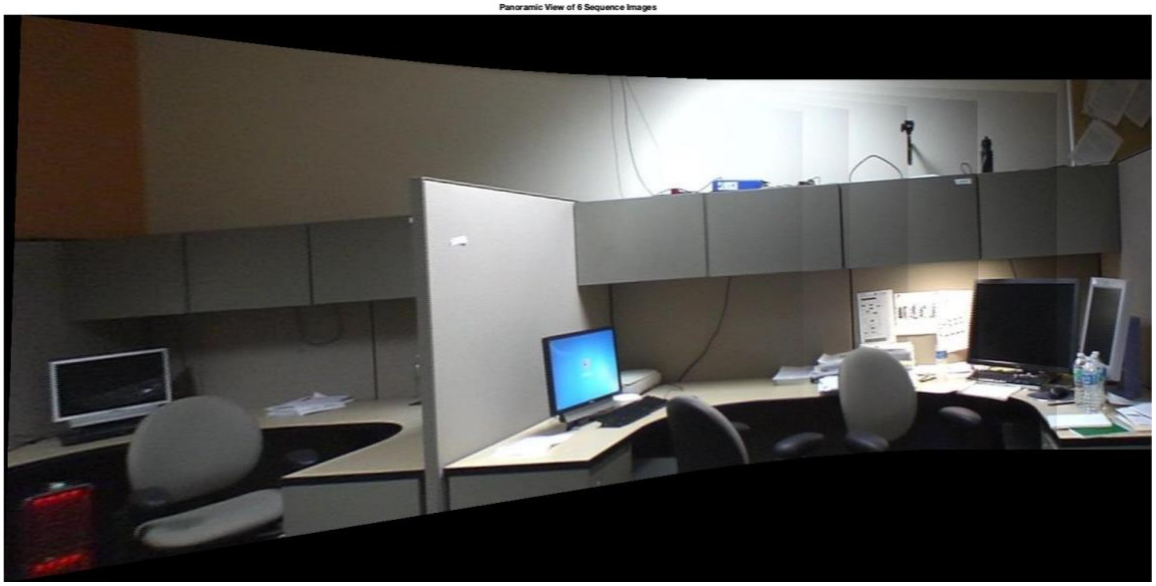
Montage 2:

Panoramic Output Montage 2:

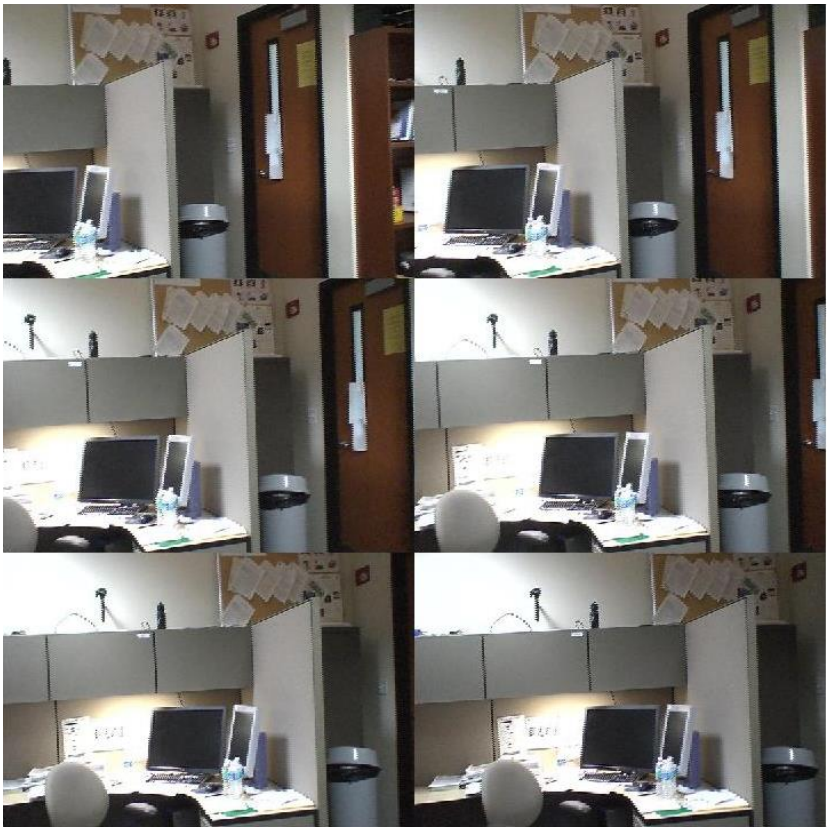
Montage 3:



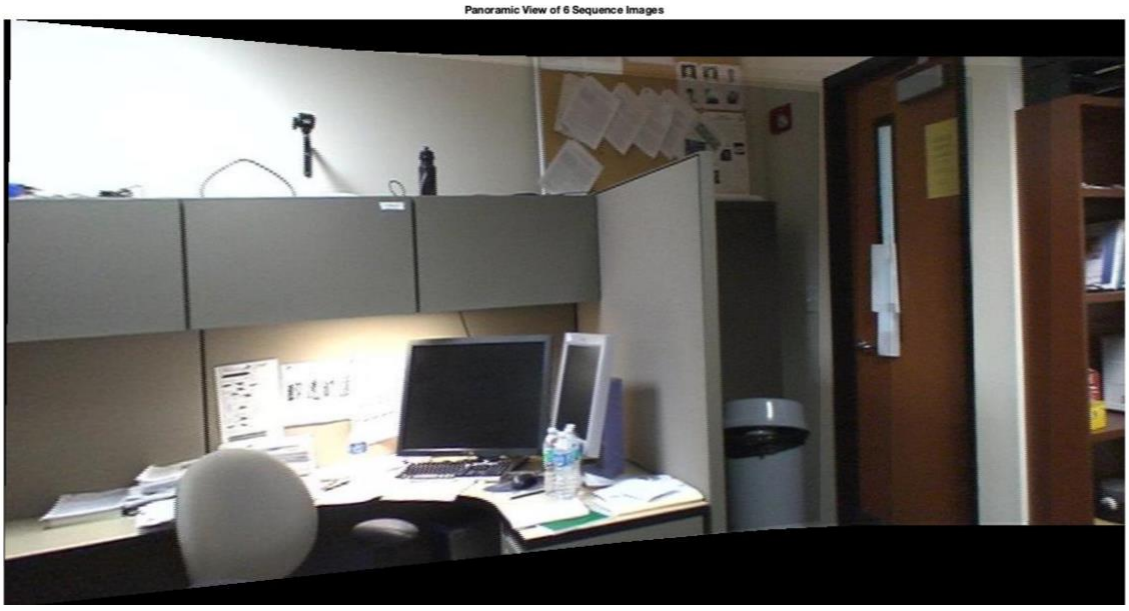
Panoramic of Montage 3:



Montage 4:



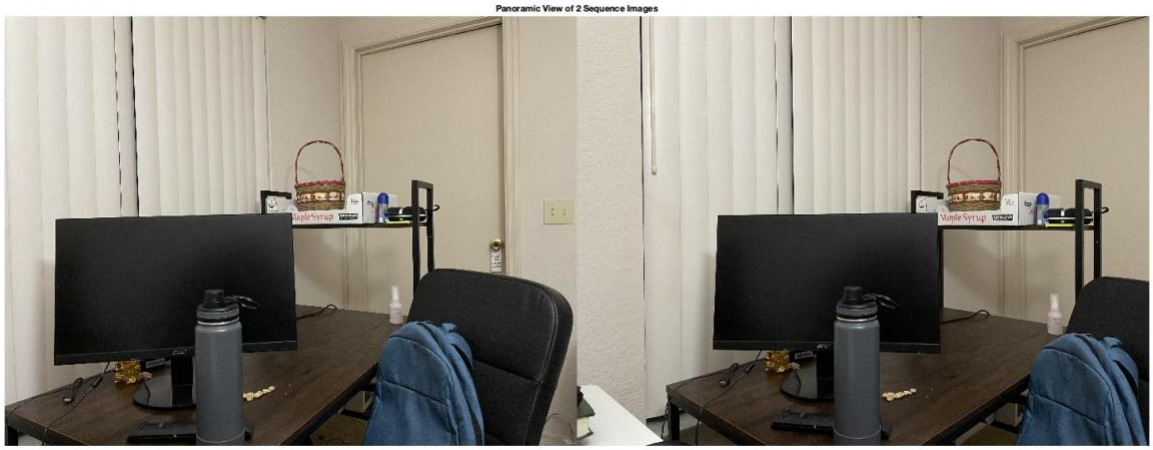
Output Montage 4:



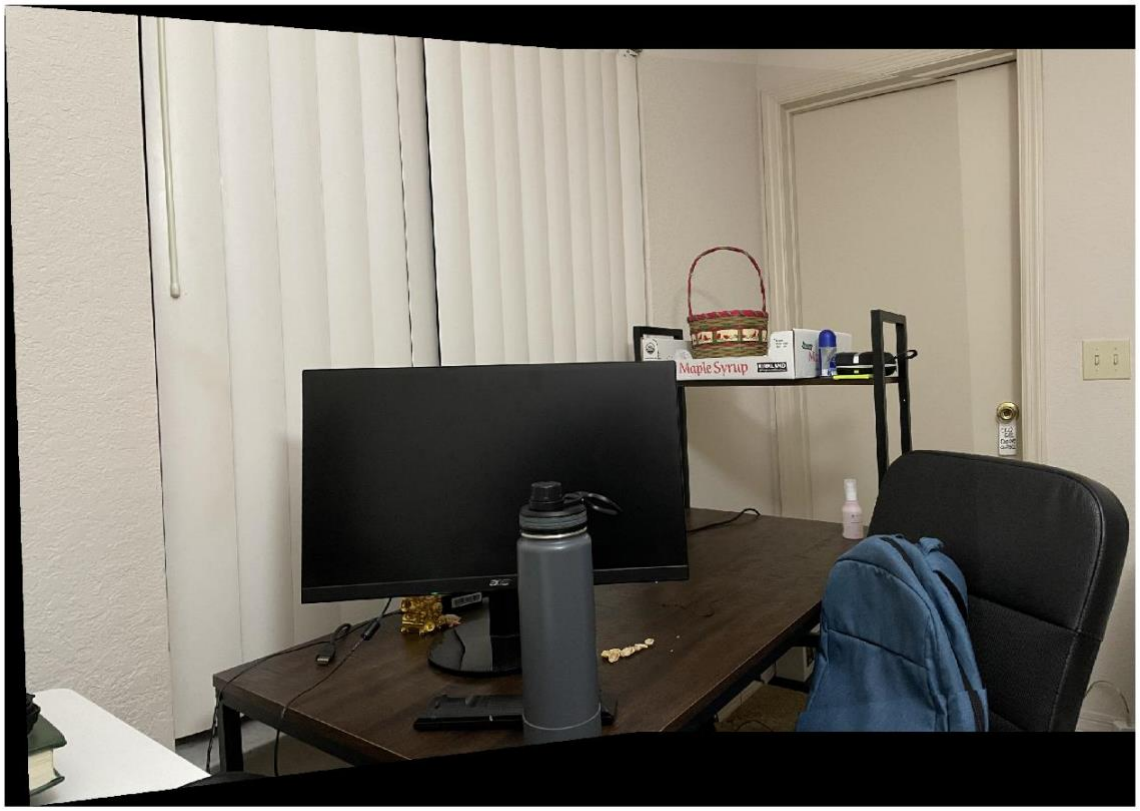
Montage 5 (intersection folder)

Panoroma Sequence 5

Seq 6 Montage



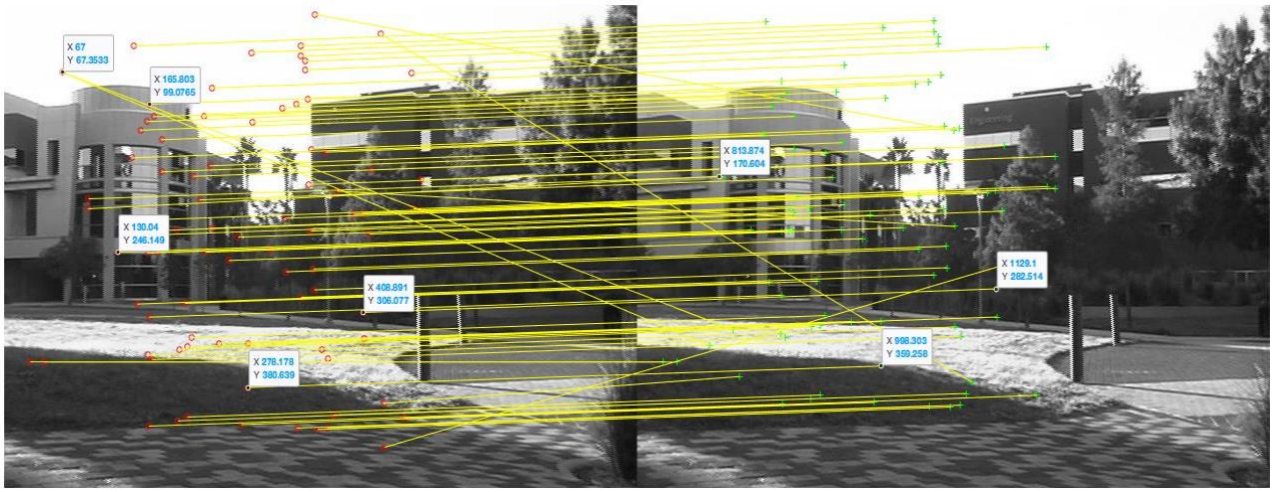
Seq 6 Panoroma



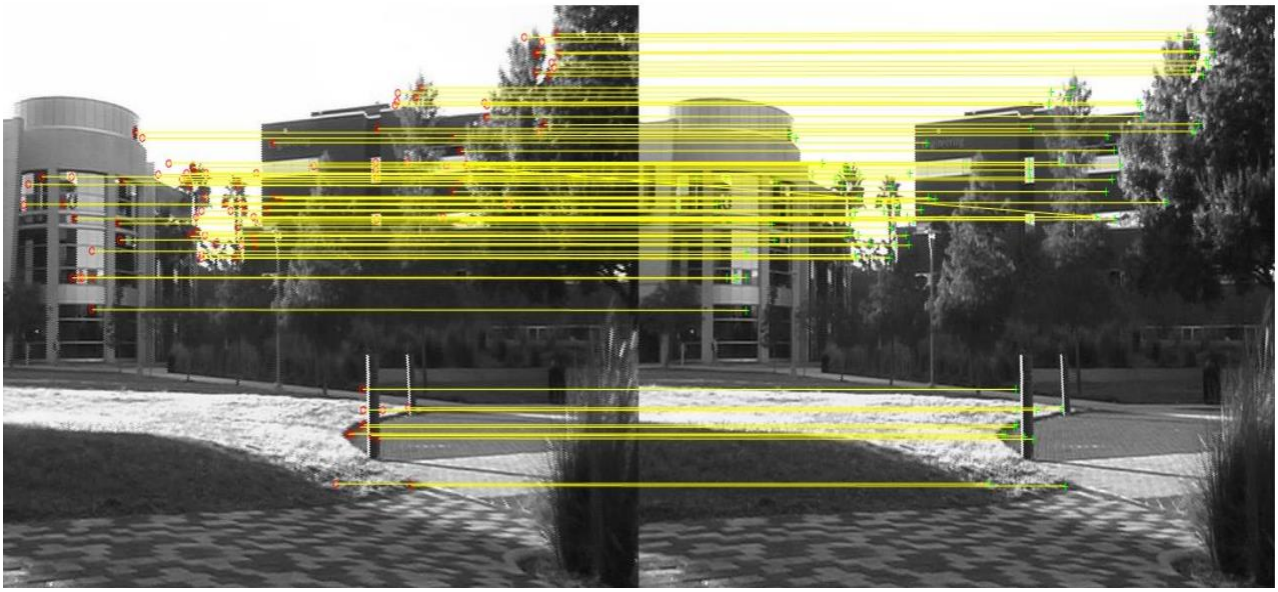
Unfortunately, I couldn't try Panoroma for 4 sequences images, because matlab stopped responding for 4 images and was working for 2 images only.

Point Correspondences using SIFT vs SURF

Initially, I have used SIFT to compute Point correspondences, these were the sample results



Then, I tried SURF features to compute Point Correspondences, I got the following result



I went with SURF Features as this implementation is robust to noise than SIFT.

Peter's mat lab function to compute ransacfithomography.m was throwing errors, which I was unable to fix after spending an hour. That's why I had to go with SURF.