

Mosaicing

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EP21B030

1 Directory Structure and File Purposes

The directory contains 4 .py files,

- `perspective_wrap.py`: It computes the perspective transformation when given the source image and the Homography matrix using target-to-source mapping and bilinear interpolation using multilinear polynomial fitting. It is used to compute the error in RANSAC
- `sift.py`: It, when given two images, computes the correspondences between them using SIFT and returns the coordinates
- `compute_homography.py`: Given the two images and the correspondences between them, this runs RANSAC to compute the best fitting Homography between the two images and returns them
- `mosaicing.py`: This is the main .py file. It reads in the 3 images, reduces their size if it's too large, computes the homography matrices, and stitches them together within an appropriate bounding box again using target-to-source mapping and bilinear interpolation

2 Results

2.0.1 Assignment Images



Figure 1: `img1.png`



Figure 2: img2.png



Figure 3: img3.png



Figure 4: The output assign_out.png

2.0.2 My Images



Figure 5: myimg1.jpeg



Figure 6: myimg2.jpeg



Figure 7: myimg3.jpeg

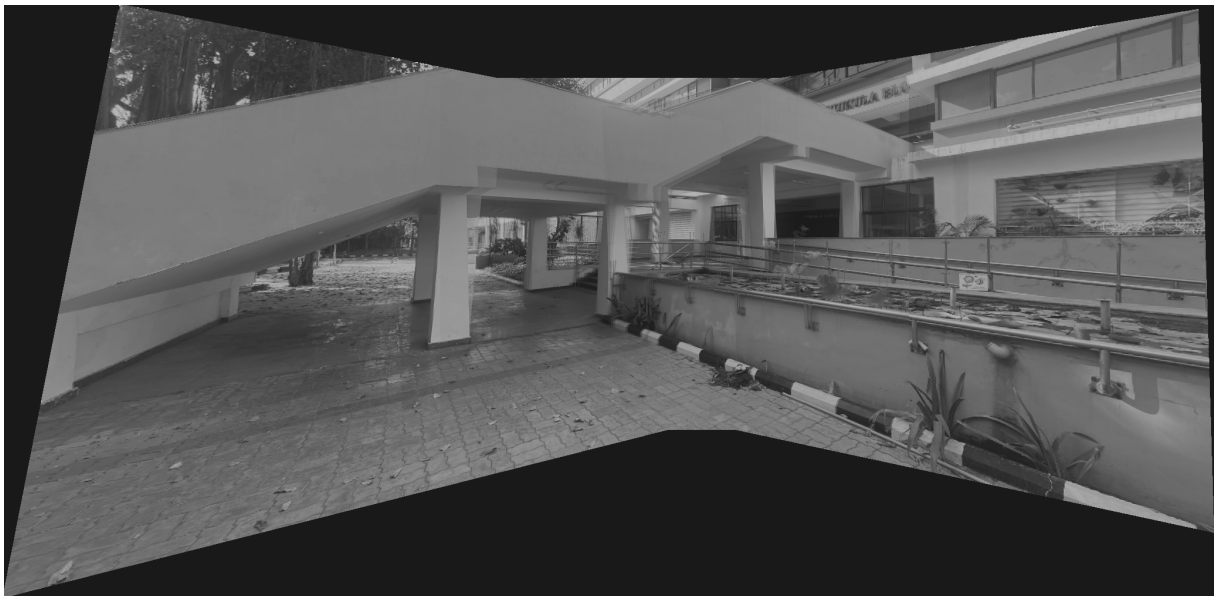


Figure 8: The output my_out.png

2.0.3 Remarks

- We see that since the scene in the images given in the assignment has objects far off from the camera, the stitching is good
- But since the scene in the images I took is not that far off, the notion of depth makes it difficult to fit the Homography, and we don't see good stitching in some parts of the scene, where a drastic shift in depth occurs