This part is the image alignment. The basic idea is based on the method in reference but the result is not as good as expected.

Method:

1 Extract and store the sift feature information of each image

2 According to the feature distance figure out the matched image pairs

3 Align the image based on the translation of fixed points and moving points

4 Fourier Burst Accumulation

In particular, Fourier Burst Accumulation is weighted Fourier reconstruction. I first used FBA directly on the original image set. Then I added registration based on sift features before FBA.

Problems:

The result image may have wide black edges or blurred effect. I tried to use different distance definition and distance ratio to further restrict the matched image pairs. There is no quantitative evaluation for good or bad results. Further evaluation is pending. The result images are uploaded on share folder.

Future work:

Try to use different features to figure out the translation of points.

Adjust the variables like the distance ratio or distance to get better results.