LAB 5

T-Rex Mosaic

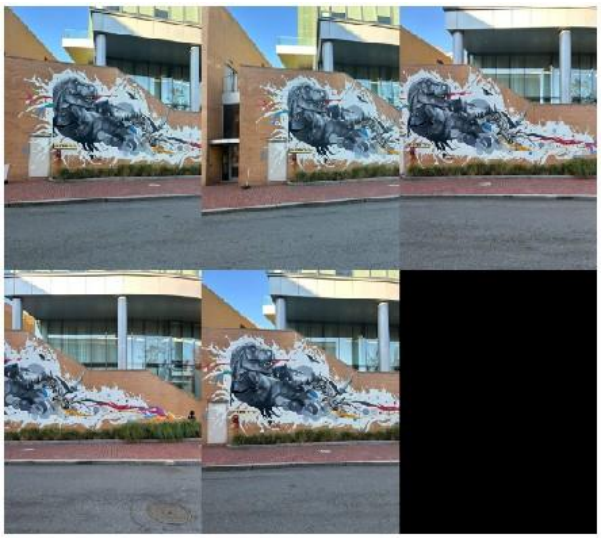

Figure 1 T-Rex Image set

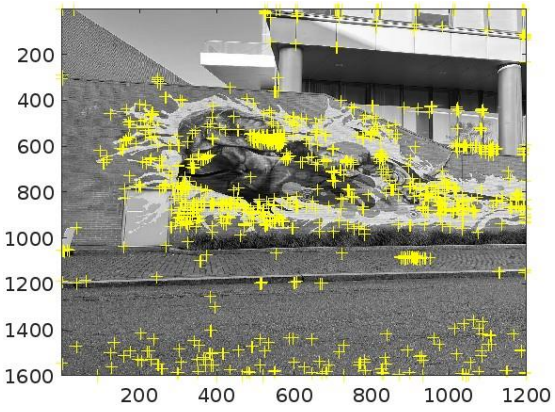

Figure 2 Harris Distribution 1

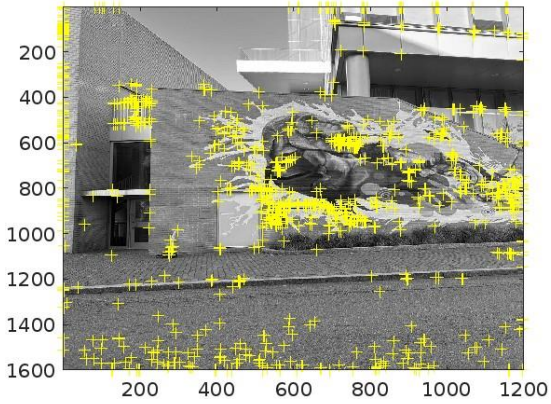

Figure 3 Harris Distribution 2

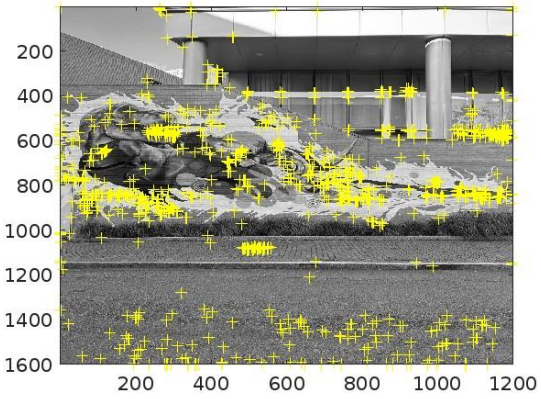

Figure 4 Harris Distribution 3

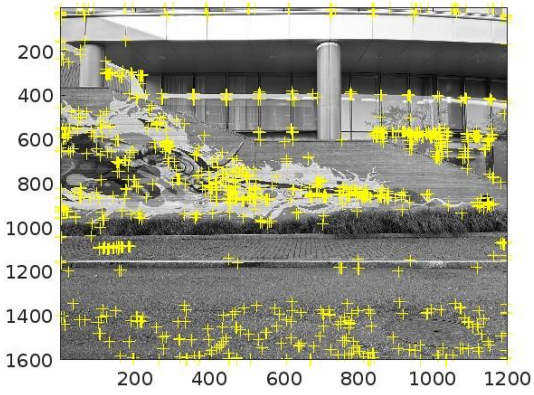

Figure 5 Harris Distribution 4

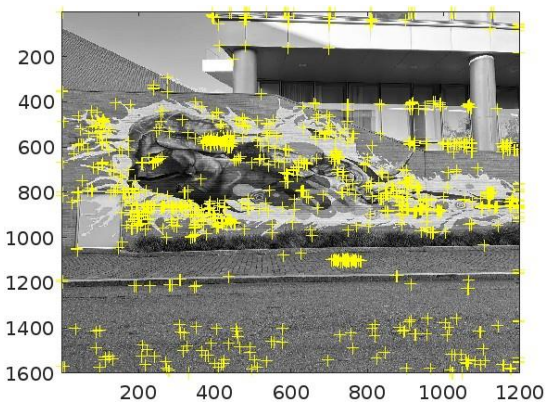

Figure 6 Harris Distribution 5

Figure 7 Final T-Rex Mosaic

The only adjustments that I made for this image set was to vary the number of interest/feature points to see if it would make the final mosaic clearer. Setting 1000 features and tile of [2,2] seemed to return a mosaic that incorporated all the images which stitched together to give a clear final mosaic.

The mural itself has been stitched together well but the buildings in the background are distorted. It could be because the T-Rex mural is 2 dimensional whereas the buildings are 3D.

Cinder Block Wall Mosaic

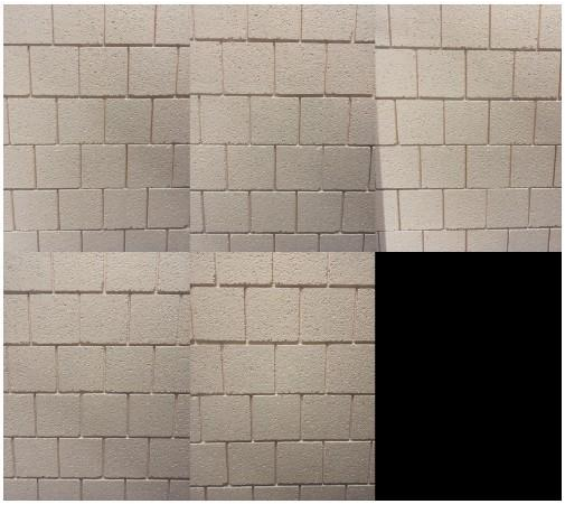

Figure 8 Wall Image set

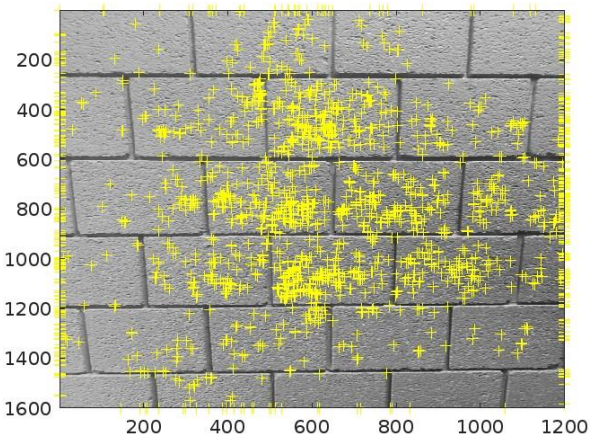

Figure 9 Harris Distribution 1

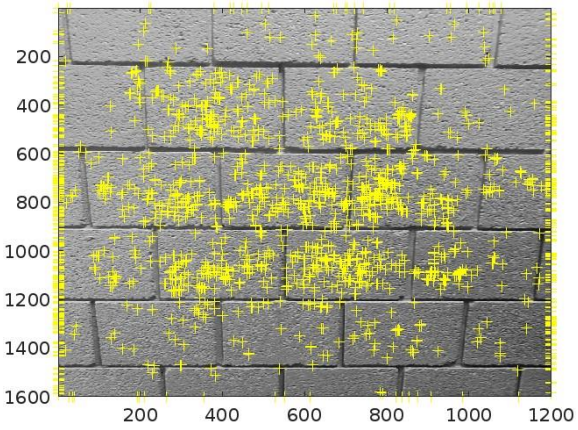

Figure 10 Harris Distribution 2

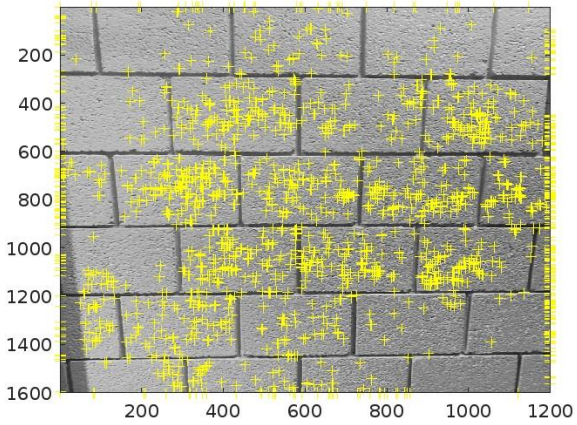

Figure 11 Harris Distribution 3

Figure 12 Final Cinder Block Image

Compared to the T-Rex, it was difficult to get the final image. I had to increase the number of features and check if the final image was satisfactory.

Setting 1700 feature points and tile of [2,2] returned an image which showed the wall images stitched together well.

The Harris detector did a very good job of detecting the features even though the wall had almost identical features. Increasing the number of feature points made the final image well stitched together.

Mosaic with 15% overlap

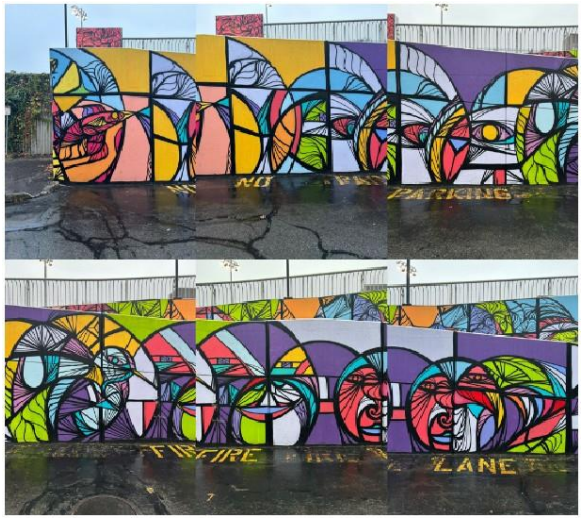

Figure 13 Image set

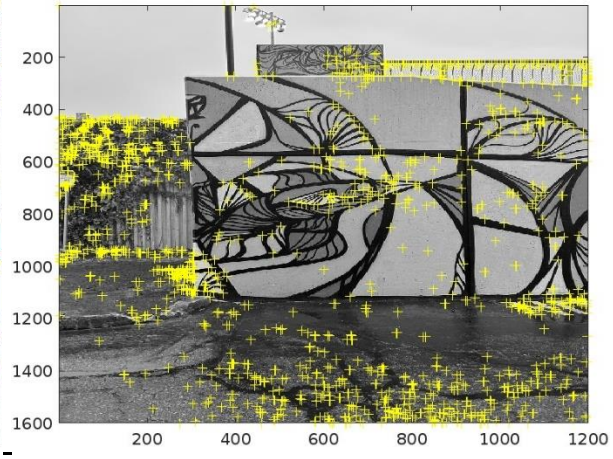

Figure 14 Harris Distribution 1

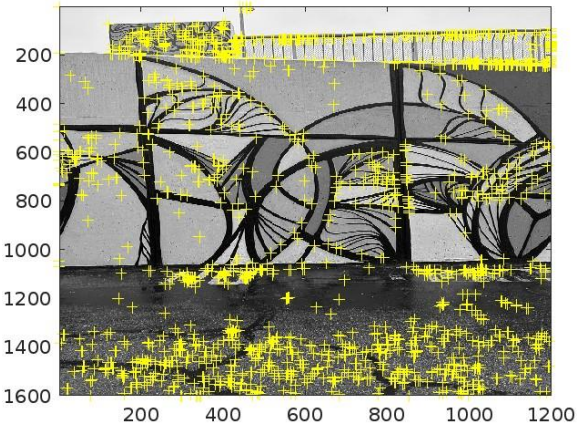

Figure 15 Harris Distribution 2

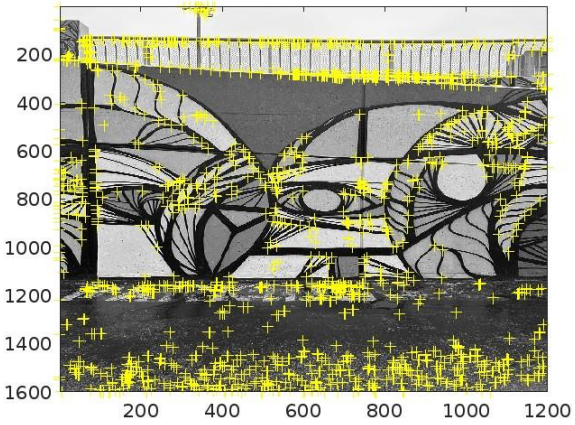

Figure 16 Harris Distribution 3

Figure 17 Final mosaic with 1000 features

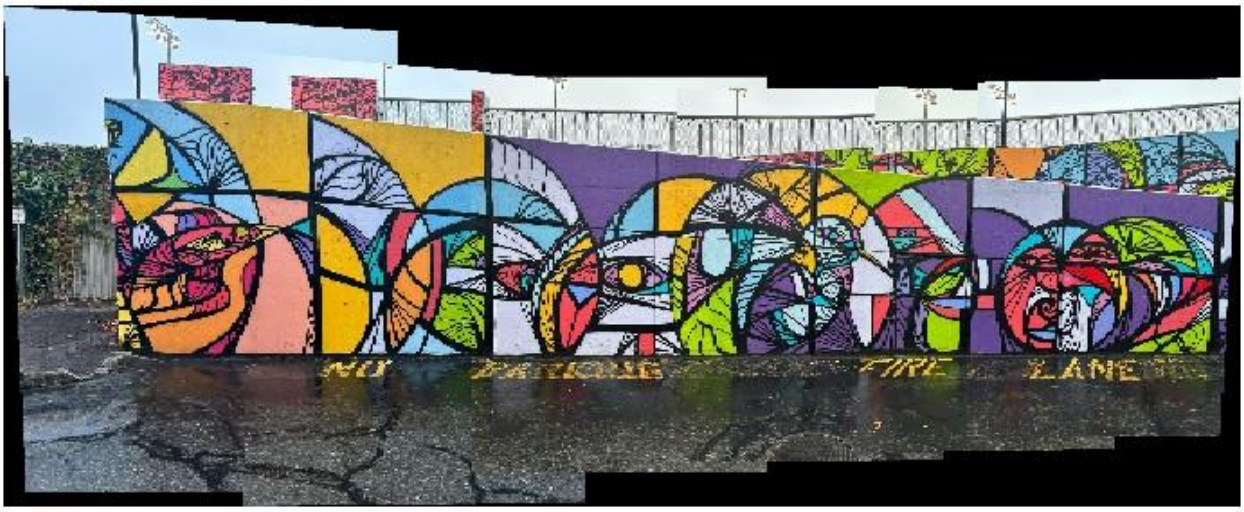

Figure 18 Final mosaic with 1500 features

In figure 17, the features points were 1000 and tile of [2,2]. The final mosaic had some disparities since the mural had a lot of details. Some portions of the mural got mixed together.

In figure 18, I increased the number of features to 1500 and it gave a very clear final image showing all the details that the actual mural had.

Considering the T-Rex mural to have 50% overlap, it was easier to get a clear final image as compared to the one that had 15% overlap.

Using 1000 features for both, the stitching of images in 50% was way better than 15% overlap. It required less feature points to get a clear final image.