

Computer Vision: Representation and Recognition

Assignment 3

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June 19, 2022

1 Image Mosaics

1.1 Getting correspondences

run `select_p.m` to manually select 4 corresponding points in each image.



Figure 1: select from image1



Figure 2: select from image2

1.2 Computing the homography parameters

run `map_p.m` to calculate the homography matrix based on points selected in step1.

1.3 Warping between image planes & Create the output mosaic

run `try_warp.m` to warp the 2 provided images.

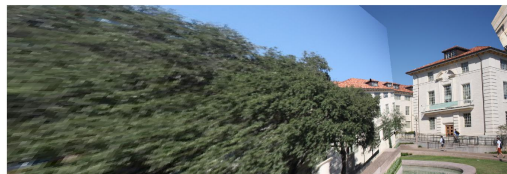


Figure 3: warp result

1.4 Warp one image into a “frame” region in the second image

run `warp_into.m` to warp a picture of Vincent Van Gogh into a bus.
result are from figure 4 to figure 6.



Figure 4: Van Gogh



Figure 5: bus



Figure 6: warp result of figure 4 and 5

2 Automatic Image Mosaics

2.1 automatically obtain interest points and descriptors

- (i) first setup vlfeat in matlab.
- (ii) run vlFeatm to automatically obtain interest points and the coordinates of the interest points are stored in `p_x`, `p_y`, `p0_x`, `p0_y`.
- (iii) the following steps are the same as above.

2.2 RANSAC