Homework 4 Computer Vision, Spring 2020

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Challenge1:

a.

This task is to develop a program to calculate homography between a pair of images. Suppose the homography between two images is H, according to the projection transformation, the destination points can be calculated by: p_d = p_s * H. The coordinated of the corresponding points are set by using “ginput”.

b.

This task is to warp and paste a portrait of Vincent to the empty billboards in the provided image. In addition to warping the source image onto the canvas, “interp2” has been used to interpolate pixels.

c.

This task is to solve the outlier problems in Image Alignment. In this part, the “ransac_n

”has been set as 100 and the “ransac_eps ” is 5.

d.

This task is to blend two images into one and there are two modes can be chosen : “overlay” and “blend”. In the coding, “bwdist” has been used to compute the Euclidean distance transform of the binary image and it can help to create a weight mask.

e & f.

This step is to combine all the functions achieved before to create panorama. The panorama created based on my own images is called “park”