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Codes Position: / Assignment2-Code

Pictures Position: /results

Explanation: /README.pdf

Observation:

As the rubric, I have 5 functions: Main(), MyGaussian(), PreProcessing(), ransacTest(), houghDetect();

The main function is the entry of the program. It requires 2 args such as the sigma of the gaussian filter and the threshold for the hessian filter.

MyGaussian function is the support function and receives the sigma as argument to return the image after gaussian filter.

The Preprocessing function receives the sigma to get the image after gaussian filter and the threshold to apply a hessian filter. Finally it returns the points through a 2Xnumbers matrix. The [;,x] in another word the column of the matrix is the row and column of the points in original images.

The ransacTest function receives the image, points, inlierRatio, and DistanceThresholding as the args. Because I set the DistanceThresholding = $\sqrt{3.84 * \sigma * \sigma}$ and pick the inlierRatio=0.4, we don't need to input any parameters here.

The houghDetect function also receives the images and points as args.

After many test, I found that the low threshold =18 and the sigma=2 fit the points well

The resulting images:

Original Piture



Noisy Picture



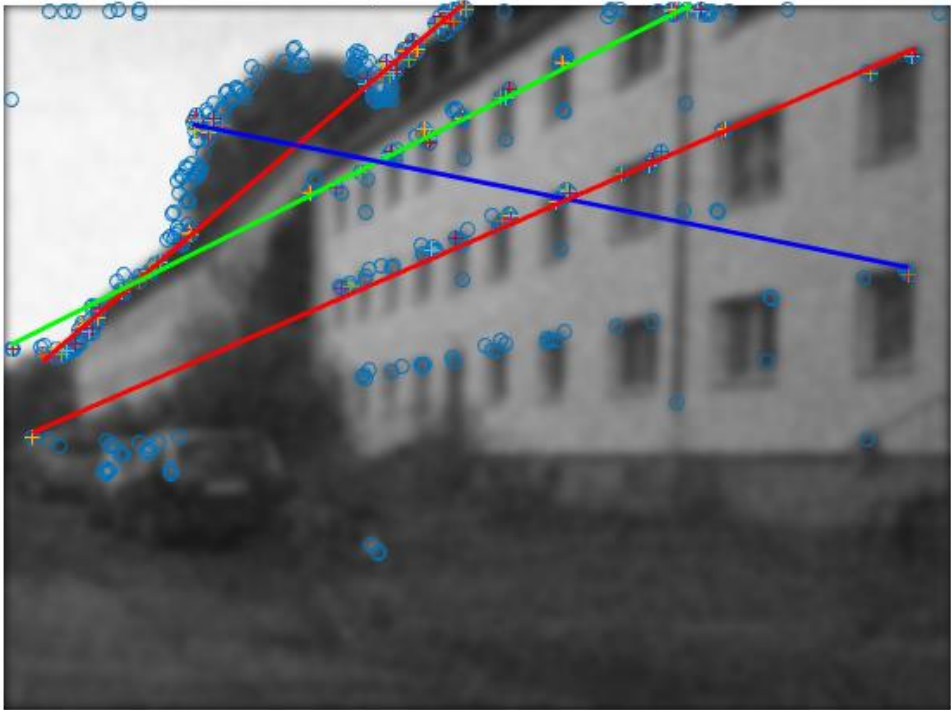
matlab Gaussian Filter with sigma1



my Gaussian Filter with sigma1



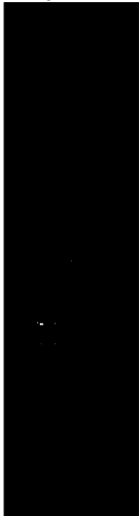
This is the picture with ransac detector



hough transformation



hough transformation2



extract the points after hough transformation

