Digital Image Processing (Assignment-2)

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1)For IISC main building , Stone face ,Low light 1 and low light 2 image which is dark/low light FSCS,NFSCS and HE works well.but clahe will create different segment which is distinguished in image so it not works as others.

Hazy image works well in HE and FSCS. Image is more brighter blurry so Non linear make more blurry but FSCsS and HE gives full range make image equalize over range.

2) Bilinear Interpolation works better than nearest neighbourhood as it take pixel values from both directions and give appropriate pixel value where NN takes only one pixel value so during zooming always that pixel get used more number of times but in BL it's avg or computed which reduce the use of same pixel.

Example Mse error in bee image using Bilinear Interpolation gives half error then NN.

4)Mitigating noise in image with averaging filter and as filter length increase image gets blurred. If we do sharpen without removing noise image gets more noisy and light as we are adding same pixel multiple times.

5)Here template matching without preprocessing fails because distribution is not uniform and try to match region with same pixel value eg. That matches red car with red background, but after preprocessing (Histogram Equalization) it match correct place.

Code : Functions created as given in assignment and test\_Qi where i is question number for running that function and save output image to output folder.All these are accessible through run\_program() function.