407 Comp Lab 4

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Pixelwise Transform Functions

Note that MATLAB have the pointwise operation instead of using the for loop for accessing each pixel location

Q1: Try Gamma transformation with different values of gamma and c using the equation $s = cr^{\gamma}$,

fix the value of c to one for example and then use p = 0.5 and 2,

fix the value of γ to 0.4 for example and then use c=0.5 and c=2,

show the image and the histogram before and after applying the gamma transform and explain the resulting images.

Q2. Perform log transform of the cameraman.tif image. The formula is s = c * log(1 + r). Change c and show image and histogram (before and after) each time you apply log transform

Q3- Convert the input image into its negative by point transformation.

Q4- Apply contrast/histogram algorithm stretching in the lecture to pout.tif image

Q5- Apply average filtering:

1. Add noise to image using the MATLAB function imnoise (choose salt&pepper and speckle noises), now you have two noisy images
2. Define the average filters
    a. h1=1/9*ones(3,3);
    b. h2=1/25*ones(5,5);
3. Apply these two filters to each of the noisy images using function conv2
4. Show the images before and after filtering

Simple example:

```
b=imnoise(a,'salt & pepper');
h1=1/9*ones(3,3);
b1=conv2(b,h1,'same');
```
and so on