

CS540/440 – Digital Image Processing

Lab 3.2 – Filter Techniques for Image Enhancement, Edge Detection, and Noise Removal

Due: 16:00 p.m. Wednesday, Feb 28th, 2018

General Assignment Instructions: The same as Lab 2.

Exercises on Edge Detectors in the Spatial Domain

You can call Matlab built-in functions to perform the appropriate filtering operations to solve the following problems.

1. [5 points]

Apply the Sobel edge detector, **as explained in class**, to find the important edges in the image *Rice*. On the Matlab console, explain your strategies to choose the appropriate threshold to locate the important edges in *Rice*.

A Practical Problem [8 points]

1. [8 points]

Use the techniques explained in class to get rid of the streaks (stripes) in the image “**Text.gif**”. Summarize the basic idea of your solution on the Matlab console. Display the original, some important intermediate images (plots), and the enhanced image in a few figures with appropriate titles. **Please DO NOT hard code any values to solve the problem.**

Note: I will choose the best solution to this problem. The student coming up with the best solution will get a 2-point extra credit!