ECE 5470 Digital Image Processing
Homework # 6

Due Date: March 9, 2020 4:00 pm

1. Butterworth High-pass Filtering

(a) Implement Ideal, Gaussian, and Butterworth high-pass filters. You must be able to specify the radius of the filter D0.

(b) Download Fig6-1a.jpg and Fig6-1b.jpg, apply Ideal, Gaussian, and Butterworth high-pass filter with two different D0.

(c) Apply (Add or subtract) high-pass filter result to original image for image enhancement. You may apply gray level enhancement if it needs.

2. **Bandreject Filtering**

Download Fig6-2a.jpg, Fig6-2b.tif, and Fig6-2c, write a MATLAB code for Bandreject filtering and apply to the images. Try to have the best enhancement on the given corrupted images.

3. Filtering

Download Fig6-3.tif, apply filter(s) and threshold to represent the image in your best result of black and white image.

Your report should include your own MATLAB code, the original image, and the enhanced images. Use this information to explain what was enhanced as it was for an image.