EECS 225B Problem Set 1

Due on 02/24/2020 at 9am on Gradescope

PROBLEM 1: Problem 2.50 from 4th edition of Gonzalez and Woods.

PROBLEM 2: Problem 2.59 from 4th edition of Gonzalez and Woods.

PROJECT 1: Implement the noise reduction for the noisy image called 'apollo 17_boulder_noisy.tif' and submit your code and the denoised image. The image can be found in the zip file.

PROJECT 2: Project 2.7 from 4th edition of Gonzalez and Woods. The images can be found in the zip file ('angiography_live_ image.tif' and 'angiography_mask_image.tif').

PROJECT 3: Project 2.9 from 4th edition of Gonzalez and Woods. The image can be found in the zip file ('rose1024.tif').

PROJECT 4: Project 2.10 from 4th edition of Gonzalez and Woods. You will need to use the function you have created in PROJECT 3. The image can be found in the zip file ('angiography_live_ image.tif' and 'rose1024.tif').

Note:

1. Alternatively, all the images can be downloaded from http://www.imageprocessingplace.com.
2. For each problem, you need to:
    1. Email your source code (zip it before you email) to eecs225bsp20@gmail.com if the question asks for any implementations.
        1. Make sure your code is executable. Either MATLAB or Python is okay. Please avoid C/C++ if possible (appreciate it!). If using Python, Jupyter Notebooks are preferred.
        2. Email title: FirstName_LastName_HW#. For example, Scott_McCrae_HW1.
        3. Submit a single PDF file on Gradescope which contains: i. your answer for each problem; ii. your source code (please also paste your source code here; screenshots are okay); iii. your output image(s). Make sure to prepare your solution to each problem on a separate page. On Gradescope, please select and match each page to the corresponding problems.
3. Please also read the class website carefully about the homework policy.