

Digital Image Processing ECE 4501/6782

Instructions: **Please submit 1 PDF document with your answers.** Handwritten notes can be scanned with apps such as CamScanner. Typing the answers out is recommended, wherever possible. **Include any code if attempted.** Assume that you can use MATLAB/Python functions wherever it is not mentioned EXPLICITLY to build your own.

Learning Objectives

Non Linear Filter Design and Application

Question 1 15 points

Design a “Trimmed Mean Filter”

Apply your filter to the images with suitable parameters (P, Q) attached to this homework. Report P, Q (check the module), and the final image(s).

Question 2 25 points

Design a “Bilateral Filter” (Module 5).

Apply your filter to the images with suitable parameters (K_G , σ_G , K_H , σ_H) attached to this homework. Report K_G , σ_G , K_H , σ_H (check the module), and the final image(s).

Make one PDF file that contains:

- a. Report all the images.
- b. The code