Beykoz University

Computer Engineering

Image Processing

Project 2

Due: 16 November 2022

1. Write a computer program for implementing the histogram equalization technique. Perform histogram equalization on image “Phoenix.PNG”. As a minimum, your report should include the original image, a plot of its histogram, a plot of the histogram-equalization transformation function, the enhanced image, and a plot of its histogram. Use this information to explain why the resulting image is enhanced.
2. Write a computer program to implement high-boost filtering given by

where is the filtered image, *k* is a constant greater than 1, is the image to be filtered, and denote the blurred image obtained by averaging . The averaging part of the process should be done by using the following mask

Enhance image “softstone.PNG” by using the program you developed.

1. The basic way in which we use the Laplacian for image sharpening is

where and are the input and sharpened images, respectively. Write a program to perform image sharpening. The Laplacian part of the process can be be done by using the following mask

Sharpen image “moon.tif” by using the program you developed.

1. Develop a program to perform median filtering. Apply median filtering to the image “noisyImage.PNG”, and enhance it.