

Digital Image Processing, 2024 Spring

Homework 1

Name: Zhou Shouchen

Student ID: 2021533042

Due 23:59 (CST), Apr. 7, 2024

Problem 1:

(a) Figure 1 is the histogram image of grain.tif.

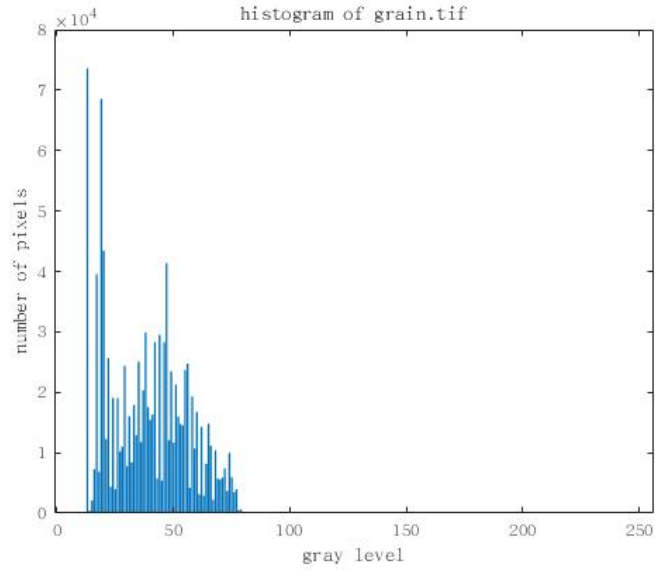


Figure 1. Histogram of grain.tif

(b) The left image of Figure 2 is the histogram equalized image, and the right one is the histogram of that histogram equalized image.

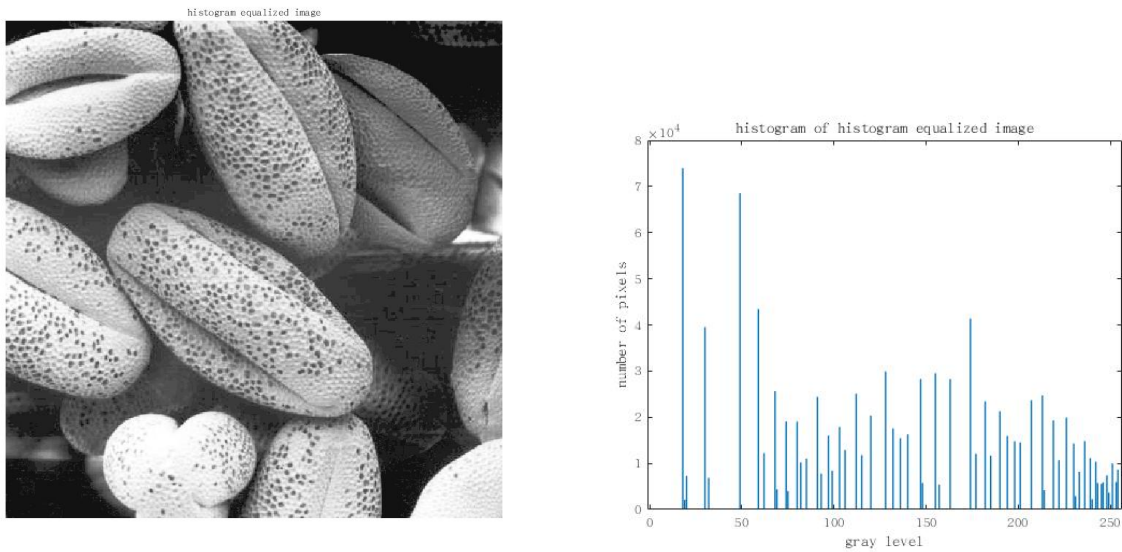


Figure 2. Histogram equalized image and its histogram

(c) The left image of Figure 3 is the CLAHE processed image, and the right one is the histogram of

that CLAHE processed image.

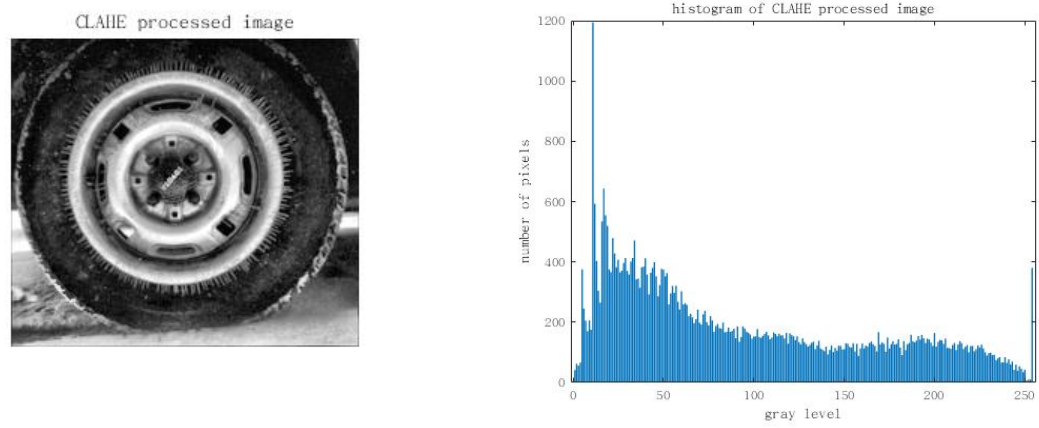


Figure 3. CLAHE processed image and its histogram

Problem 2:

- (a) Laplacian kernel processed image
Separated Laplacian kernel processed image
- (b) Sharpened image with unseparated Laplacian kernel
- (c) Sharpened image with unsharpen mask

Problem 3:

processed by the median filter and Gaussian filter
cause of the results