Project 1

Image Processing

Division of Electronics and Information Engineering

September 15, 2020

Purpose: To learn python image library and smoothing operators

Specifications:

1. You need to install python with related packages so that you should be able display and edit every image.
2. Filtering: Design 3x3 and 5x5 kernels with all 1s. Then, apply your filter to images, such as lena and cameraman.
3. Convolution: Design a kernel, which is a matrix like [0.25 0.50 0.25 / 0.5 1 0.5 / 0.25 0.5 0.25]. Then apply your Kernel to images.
4. Gaussian Filter: Design 7x7 Gaussian filter. Then, apply your Kernel to images.

Discussions:

1. Analyze result images from the previous three implementation
2. What are effects of each kernel to images?

Hand in : Turn in your completed document to eiprof@naver.com. Your document include ①Problem description, ②Source codes with full of comments, ③Results (screen capture), ④Analysis report, and ⑤Others (such as references) in order. The email title should be 'IP Your_Name HakBeon(student id number) Proj_number'

Due date : September 21, 2020