

EE-608: DIGITAL IMAGE PROCESSING

Lab Assignment 4

Link for sample images : [Sample Images](#)

AIM:

- 1) Write a function to apply a Linear smoothing filter (e.g., Box or Gaussian blur) and a Non-linear smoothing filter (e.g., Median filter) on the given image.
 - 2) Write a function to do histogram equalization on a given image and plot before and after histograms.
 - 3) Take two different images of the same size and Apply histogram matching between them. And plot the image after its histogram transformation to its desired match.
- Doubts: You can approach us. Use leena image or any other image of (512,512).

Libraries: Opencv to read or write image

Matplotlib to display image

Numpy wherever necessary Basic

python functions

Deliverables:

Just give a concise report of what you understand in your own words, not too heavy theory taken from the web.

- 1) Write a python or matlab code to implement above given tasks.
- 2) Analyze the tasks clearly and the mathematics behind the task.
- 3) Plot the results and make a report of results and observations.