ECE/OPTI 532, Spring 2023

Homework 4 Assignment

Due Tue. March 28

Write a computer program to threshold a grayscale image to obtain a bi-level image. Write your own code for the steps of the algorithm; don't use existing thresholding-related functions. Use Kittler and Illingworth's algorithm. Cho's correction term for tail truncation is optional.

Input: grayscale image

Output: binarized image

Submit the following items:

- Your commented source code files.
- Run your program on the `address.png` image, and submit the thresholded image.
- Show the threshold value that Kittler's algorithm found for the `address.png` image.
- Optional: Also try your program on `graybook.png`.

$J(t)$ Values for **`address.png`** Image
(Here, the logarithms were calculated using base e.)

gray	J Value
27	2.76137
28	2.76137
29	2.76132
30	2.76121
31	2.7611
32	2.76099
33	2.76078
34	2.76054
35	2.7604
36	2.76018
...	
137	2.79171
138	2.78289
139	2.77582
140	2.76994
141	2.76562
142	2.76363
143	2.76249
144	2.76179
145	2.76169
146	2.7616