Project #1

assign October 5, 2020 due October 9, 2020

Consider intensity transformation function, $s = T(r) = \boldsymbol{H}\{\arctan[(r-128)/32]\}$, where $\boldsymbol{H}\{\}$ is a linear operation used to shift and rescale the result of arctan to make the final value s in the range 0 – 255 (same as the range of input intensity r).

Determine

(1) the transformation function $s = T(r)$,

(2) the output image after applying the transformation function to the image below, and

(3) the input and output histograms.

Your report (Word or pdf format) should contain:

- Source codes
- Figure of $s = T(r)$
- Table of transformation function to show the mapping from the input gray level r to the output gray level s
- Figure of the output image after applying the intensity transformation function
- Figures of the original and output histograms

Upload your report to new e3 before 23:55 of due date!