Image Contrast Enhancement Using Novel Histogram Equalization

Ms. A.S.Senthil Kani[1], Ms.S.Jeslin[2], Ms.A.Getzie Prija[3], P.Maria Jothi Jenifer[4], S.Esther Leethiya Rani[5]

Assistant Professor, Department of ECE, Francis Xavier Engineering College, Tirunelveli, India[1]

PG Scholar, VLSI Design, Francis Xavier Engineering College, Tirunelveli, India[2, 3, 4, 5]

Abstract: Histogram equalization is a well-known and effective technique for improving the contrast of images. The traditional histogram equalization (HE) method usually results in extreme contrast enhancement, which causes an unnatural look and visual artifacts of the processed image. In this project, novel histogram equalization method is proposed that is composed of histogram separation module and an intensity transformation module. The proposed histogram separation module has proposed prompt multiple threshold procedure and an optimum peak signal-to-noise ratio (PSNR) calculation to separate the histogram in small-scale detail. As the final step of the proposed process, the use of the intensity transformation module can enhance the image with complete brightness preservation for each generated sub-histogram.

Keywords: Histogram equalization, contrast enhancement, multiple thresholds, peak signal-to-noise ratio.