Histogram Equalization for Improving Quality of Low-resolution Ultrasonography Images

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Abstract	The current development of digital image processing techniques have been very rapid. Application of digital image processing both hardware and software are available with a variety of features as a form of superiority. Medical ultrasonography is one of the results of digital image processing technology. It is a kind of diagnostic imaging technique with ultrasonic that is used to produce images of internal organs and muscles, size, structure, and wound pathology, which makes this technique is useful for checking organ. However the images produced by low resolution ultrasonography device is not fully produce clear information. In this research we use histogram equalization to improve image quality. In this paper we emphasize on the comparison of the two methods in the histogram equalization, namely Enhance Contrast Using Histogram Equalization (ECHE) and Contrast-Limited Adaptive Histogram Equalization (CLAHE). The results showed that CLAHE give the best results, with the parameter value Nbins 256 and Distribution Rayleigh with MSE value 9744.80 and PSNR value 8.284150.
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