Abstract

The aim of the image enhancement is to improve the interpretability or perception of the information in images for human viewers, or to provide ‘better’ input for other automated image processing techniques. It is an indispensable tool for researchers in wide verity of fields including art studies, medical imaging, forensics and atmospheric sciences. Most of images like satellite images, medical images and even real life photographs may suffer from poor contrast due to the inadequate or insufficient lighting during image acquiring. So it is necessary to enhance the contrast of an image. In this paper two enhancement techniques namely fuzzy rule based contrast enhancement, and contrast enhancement using intensification operator (INT) are presented for the low contrast grayscale images. In first technique fuzzy system response function is obtained by simple if-then rules, and in second technique the fuzzy
Comparison of Fuzzy Contrast Enhancement Techniques

class contrast intensification operator is taken as a tool for the enhancement in the fuzzy property domain. Comparative analysis of these enhancement techniques is carried out by means of index of fuzziness (IOF) and processing time.

References

- W. Pedrycz, F. Gomode &quot;An Introduction to Fuzzy Sets: Analysis and Designquot; the MIT Press, 1998.
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Index Terms

Computer Science  Image Processing

Keywords

Image enhancement  contrast enhancement  fuzzy logic  membership function  intensification operator  fuzzy expected value  fuzzifiers  index of fuzziness  processing time.