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
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

- R. C. Gonzalez, R. E. Woods, Digital Image Processing"; 3rd Ed. , Prentice Hall,
Comparison of Fuzzy Contrast Enhancement Techniques


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.