Abstract

Since the development of internet and multimedia, image compression is emerging in all the fields like pattern recognition, image processing, system modeling, data mining, etc. Compression techniques have become the most concentrated area in the fields of computer. Image compression is a technique of efficiently coding digital image to reduce the number of
An Enhanced Vector Quantization Method for Image Compression with Modified Fuzzy Possibilistic C-Means using Repulsion

bits required in representing an image. Many image compression techniques presently exist for the compression of different types of images. In this paper, Vector Quantization based compression technique is established with Modified Fuzzy Possibilistic C-Means (MFPCM) with repulsion. Repulsion technique aims to reduce the intra-cluster distances and also increases the inter-cluster distances. The residual codebook is used in this proposed approach which eliminates the distortion in the reconstructed image and thus enhancing the image quality. Moreover, the proposed technique replaces LBG algorithm with the modified fuzzy possibilistic c-means algorithm in the codebook generation. Experimental results on standard image Lena show that the proposed scheme can give a reconstructed image with higher PSNR value than the existing image compression techniques.

Reference

- Vuda. Sreenivasarao and Dr. S. Vidyavathi, "Comparative Analysis of Fuzzy C-Mean and Modified Fuzzy Possibilistic C-Mean Algorithms in Data Mining", IJCSIT Vol. 1, Issue 1, September 2010, Pp. 104-106
Index Terms

Computer Science  Image Processing

Key words

Image compression  Vector Quantization  Residual Codebook

Modified Fuzzy Possibilistic C-Means

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