Abstract

In this paper significant features of wavelet transform in compression of images, including the extent to which the quality of image is degraded by the process of wavelet compression and decompression is being studied it has been found that maximum improvement in picture quality with higher compression ratio is achieved by wavelet based image compression In this paper examined a basic concept of wavelets; wavelet transform and discrete wavelet transform and also deliberate the principle of image compression and image methodology. The objective is to select the appropriate mother wavelet during the transform stage towards compression the gray image and the quality of reconstructed image has been estimated in terms of image quality metrics PSNR and CR and also computes compression ratio at different level of decompositions of DWT. Haar, Daubechies and Biorthogonal, Coiflets and Symlet wavelet have been applied to an image and their qualitative and quantitative analysis results has been compared in terms of PSNR values, MSE and compression ratios. In this paper going to reduce the size of gray image with maintain good picture quality, this property is helpful to storage and transmission of data over internet.

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Index Terms

Computer Science

Image Processing

Keywords

Peak signal noise ratio (PSNR)  compression ratio (CR)  mean square error (MSE)
DWT
threshold