Abstract

Image compression is an application of data compression on digital images, which is in high demand as it reduces the computational time and consequently the cost in image storage and transmission. The basis for image compression is to remove redundant and unimportant data while to keep the compressed image quality in an acceptable range. In this work, Fast Fourier Transform (FFT), Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT) methods are used to process a test image is measured and compared in terms of parameters such as compression ratio, L2-norm error, mean squared error (MSE), peak signal-to-noise ratio (PSNR) and visual quality. The performance of several wavelets using DWT is also measured and compared in terms of the parameters mentioned above.
Performance Study of Several Methods and Selected Wavelets for Image Compression

References


Index Terms

Computer Science

Image Processing

Keywords

Fourier Transform(FT) Fast Fourier transform(FFT) Discrete Cosine
Performance Study of Several Methods and Selected Wavelets for Image Compression

Transform (DCT)  
Transform (WT)  
Wavelet

Peak Signal-to-Noise Ratio (PSNR)

Mean Square Error (MSE)

Compression Ratio (CR).