Gray-Scale Image Compression Techniques: A Review

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Abstract

Multimedia data are large in size as compared to the plain-text data. And hence to transmit them over a low-bandwidth communication channel, it needs to be compressed. In this paper, focus is on compressing gray-scale images. Here two types of compression techniques are explained: Lossy and Lossless. Within lossy techniques, there are three techniques: Fractal encoding, Discrete Cosine Transform (DCT), and Discrete Wavelet Transform (DWT). And following are lossless techniques: Arithmatic Encoding, Run Length Encoding (RLE), and Huffman Encoding. The efficiency of compression process is estimated using Compression Ratio (C.R.) and the quality of reconstructed image which is generated after decompression process is calculated using Peak-Signal-to-Noise Ratio (P.S.N.R.).

References


Index Terms

Computer Science  Image Processing

Keywords
Gray-scale image, redundancy, compression, decompression lossy, lossless, PSNR, CR, MSE