

Abstract Details

Title: Image Compression Analysis using Haar, Bior Discrete Wavelet Transform

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Abstract: The rapid growth of technology in recent few years has changed the whole dimension of Image compression technology. Today people are more interested in transfer of pictorial information through face book, whatsapp, and hike etc. through hands-free communication. To achieve the transfer of digital image information through limited bandwidth at higher rate of transmission, it is required that we compress the digital images. There are many algorithms and technologies available in market for compressing the image, fundamental of all these technology to remove the residual information from the digital images without affecting the quality of the same. There is another way to compress the image is to utilizing the code transformation which utilize the coding efficiency and Hauffman, DCT, and DWT transformation of codes. The combinations of two technology, first residual information removal and second source coding results better compressed image. There is a drawback that in terms of image quality, whenever we compress the information through quantization and residual information removal method we lose sharp edges and resolution of the picture degrades. The objective of this research is to compress the image through the discrete wavelet transform and analyze the effect of methods used in compression and effect of level of decomposition of the wavelet. The method used for transformation is wavelet rather than cosine transforms, the wavelet transform produce better compression then cosine in terms of compression ratio and PSNR when there is a gradual change in the color of image. It has been analyzed in this thesis that when the level of decomposition increase it produce better quality picture and if we use less encoding loops than number of bits per pixel reduces and results good compression ratio.

Keywords: Image Compression, Haar, Discrete Wavelet Transform, Signal, PSNR.