

Image Compression on Region of Interest Based on SPIHT Algorithm

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Abstract : Image abbreviation is utilized for reducing the size of a file without demeaning the quality of the image to an objectionable level. The depletion in file size permits more images to be deposited in a given number of spaces. It also minimizes the time necessary for images to be transferred. Storage of medical images is a most researched area in the current scenario. To store a medical image, there are two parameters on which the image is divided, regions of interest and non-regions of interest. The best way to store an image is to compress it in such a way that no important information is lost. Compression can be done in two ways, namely lossy, and lossless compression. Under that, several compression algorithms are applied. In the paper, two algorithms are used which are, discrete cosine transform, applied to non-region of interest (lossy), and discrete wavelet transform, applied to regions of interest (lossless). The paper introduces SPIHT (set partitioning hierarchical tree) algorithm which is applied onto the wavelet transform to obtain good compression ratio from which an image can be stored efficiently.

Keywords : Compression ratio, DWT, SPIHT, DCT

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