HIERARCHAL CODING STRATEGY FOR EFFICIENT COMPRESSION FOR MEDICAL IMAGES

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ABSTRACT

In emerging medical image applications and services, demands better accuracy with speed of operation. In such application, the medical images could be forwarded through wired or wireless network for remote monitoring. To improve the performance of such system, a higher resolution compression architecture based on wavelet transforms had been proposed. The wavelet transform which decomposes the image into different levels where the coefficient in each sub band are uncorrelated from coefficient of other sub bands .As a result, the coefficient in each sub band can be quantized independently of coefficient in other sub band with no significant loss in performance, but the coefficient in each sub band requires different amount of bit resources to obtain best coding performance. To overcome the above problems , an efficient hierarchical Zero tree wavelet coding algorithm is proposed which exploits the multi-resolution properties of the wavelet transform to give a computationally simple algorithm with better performance compared to existing wavelet transform. This coding finds the co relational properties of each band and eliminate the coefficients from each band as per their significance.

KEY WORDS: Wavelet decomposition, medical image compression, hierarchal zero coding.