

Image Data Compression By Using Multiwavelete for Color Image

*Eanas Y. Al-Tae'e

**Mariam A. Ali

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Abstract:

Thousand pictures requires a very large amount of storage. So the science of digital image compression is used to reduce the storage requirements for these images

Wavelet transforms require filters that combine a number of desirable properties, such as orthogonally and symmetry. The design possibilities for wavelets are limited because they can not simultaneously passes all these desirable properties. The relatively new field of multi-wavelets show promise in removing some of the limitations of wavelets. multiwavelets offer more design options and hence can combine all desirable transform features. The few previously published results of multiwavelet based image compression have mostly fallen short of the performance enjoyed by the current wavelet algorithms.

This paper attempts to given an understanding of the multiwavelet transform by using particular application of wavelet techniques to compress color image data. Two types of quality measure tests are used, quality measure, by demonstrating the final results with different bit quantization levels, and quantitatively measure, by comparing the decoding results, using the Peak-signal-to-Noise-Ratio "PSNR" test.

Introduction:

The rapid expansion of the internet and fast advancement in color imaging technologies have made digital color images more and more reading available to professional and a amateur users. The large amounts of image collection available from a variety of sources such as digital camera, digital video, scanner, the Internet...etc. Have posed increasing technical challenges to computer systems to store/transmit and index/manage the image data effectively and efficiently to make such collections easily accessible [1].

For more than 30 years, image coding/compression have been studied so that the storage and transmission challenge is tackled by it. Also the significant advancements have been made. Many efficient, successful and effective image-coding techniques

have been developed and the body of literature on image coding is huge. A number of methods have been presented over the years to perform image compression. They all have one common goal: to alter the representation of information contained in an image so that it can be represented sufficiently well with less information [2]. Most of these methods are essentially based on the extraction and retention of the most important (visual) information of the image.

Generally image compression involves reducing the size of image data file, while retaining necessary information, The reduced filed is called the compressed file and is used to reconstruct the image, resulting in the decompressed image [3].

Multiwavelets are only now beginning to approach the maturity of development of their scalar counter

* Remote Sensing Unit, College of Science, University of Baghdad

** Computer Dept., College of Science, University of Baghdad