Abstract

Image Compression is a technique to reduce the number of bits required to represent and store an image. The Block Truncation Coding (BTC) is a streamlined and competent application for image compressions. Even though Simple BTC can apply to make enough compression on gray scale image, it needs to extend another improved version called Enhanced Block Truncation Coding (E-BTC) for color and multispectral image compression[1]. The given color and multispectral image are converted into component image and transformed into matrix format. Then the component image is divided into blocks. After finding block sum value, mean value and variance, the number of bits required to represent an image can be reduced by
E-BTC model. The compressed binary values are stored in a table with reconstructed parameters. The binary values with parameters are passed to inverse E-BTC to reconstruct the sub image. The proposed algorithm is repeated for all remaining blocks and all are merged to get completely reconstructed image. Finally, compression ratio table is generated. This proposed E-BTC algorithm is tested and implemented on various parameters such as MSE, SNR, PSNR, BR and CR values. These experiments are carried out on the standard color image and multispectral image without loss of data as well as the quality of the image using MATLAB R2013a version 8.1.

References

- Sonal and Dinesh Kumar, "A Study of Various Image Compression Techniques", Department of Computer Science & Engineering Guru Jambheshwar University of Science and Technology, Hisar, Issue 1, April 2011.


Index Terms

Computer Science  Image Processing

Keywords

Enhanced Block Truncation Coding (e-btc)  Multispectral Image  Component Image
Sumvalue
Meanvalue
Mean Square Error (mse)
Snr
Peak Signal To Noise Ratio (psnr)
Brand Cr.