Validation of Image Compression Algorithms using Neural Network

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 179
Number 12

Year of Publication: 2018

Authors:
Nikhilesh Joshi, Tanuja K. Sarode

10.5120/ijca2018916127

Abstract

We live in Digital Era where information is generated at rapid space. Images constitute a major part of information. It becomes essential to use image compression techniques in order to reduce storage space and transmission bandwidth. Image compression algorithm can be validated using Neural Network. In this paper various methods of Image compression such as BTC, DCT, DWT are optimized and Validate using neural network. This is achieved by comparing methods based on set of parameters. The resultant compression metrics are calculated and visual quality of image is analyzed. Neural network implementation is done based on two different methods desired matrix and entropy based method. Experimental analysis shows 60 % reduction in storage space requirement and effective optimization using different methodology.

References

Validation of Image Compression Algorithms using Neural Network

Hall.
5. U.Y Desai, M.M. Muzuki, B.K.P.Horn “Edge and mean based Compression” MIT Artifical Intelligence Laboratory AI Memo No.1584,November 1996.
8. Aditya Kumar, Pradeep Singh ” Futuristic Algorithm for Gray Scale Image Based on Enhanced Block Truncation Coding” International Journal of Computer Information system Vol 2 No.5 pp 53-60 ,2011
13. and Applications ISSN:2248-9662, Vol 2 Issue 1 Jan-Feb2012 pp 515-521
15. Bhavna Sagwan, Mukesh Sharma, Krishan Gupta “RGB based KMB Image Compression Technique” International Conference on Reliability, Optimization and Information Technology Feb 2014

Index Terms
Computer Science Algorithms
Keywords

Image Compression, Entropy, Block Truncation Coding, Discrete Cosine Transform (DCT), Discrete wavelet transform (DWT), Image Quality Metrics, Neural Network, Back propagation.