Abstract

Image compression techniques are essential to reduce computational storage or transmittal costs of digital images and multimedia files without degrading the quality of the image/file to an unacceptable level. In this paper, adaptive update lifting scheme with Interactive artificial bee colony algorithm is presented for image compression. Approximation and detail coefficients are extracted from the signal by filtering it in wavelet transform. To increase frequency resolution both approximation and detail coefficients are decomposed further. Artificial bee colony algorithm by local search determines different update coefficients to improve the quality of compressed image by optimally choosing the best update coefficient. Using Artificial Bee Colony algorithm, a considerable size best directional window is determined. Interactive
Artificial Bee Colony algorithm (IABC) tool is used to find out the directional window size to give the finest compressed image in terms of both compression ratio and PSNR. The method is compared with existing methods in terms of PSNR.

References

- Pei-Wei Tsai, Jeng-Shyang Pan, Bin-Yih Liao, and Shu-Chuan Chu, "Enhanced..."

**Index Terms**

Computer Science

**Algorithms**

**Keywords**

Lifting Scheme  Adaptive Lifting Scheme  Wavelet Transform  Artificial Bee Colony  Particle Swarm Optimization

Image Compression.