Abstract

In the modern world, hidden information plays a decisive role in protecting the data and reducing the space in the memory as well as on disk drives. If encryption and compression works properly then it leads to high speed computation. Encryption of an image can be done in many ways and several techniques use different methods for encryption. Image encryption scheme operated in the prediction error domains which are able to provide a high level of security reasonably, after that we can efficiently compress the encrypted images. In this paper the full image is encrypted in an efficient and secure manner with Data Encryption Algorithm along with a new modified International Haar, SYMLET and COIFLET Wavelet. After achieving encryption on the original file, compression will be performed to obtain a compressed image. The approach based on Arithmetic coding is also demonstrated which can be utilized efficiently to compress the encrypted images. The existing encryption-then-compression (ETC) solutions encourage significant forfeiture on the compression efficiency. For better compression efficiency we are using HAAR and COIFLET wavelet transform along with ETC, for the implementation of this proposed work, the Image Processing Toolbox under MATLAB software is used.
References


Designing an Efficient Image Encryption-Compression System using a New HAAR, SYMLET and COIFLET Wavelet Transform


Index Terms

Computer Science  Image Processing

Keywords

encryption, compression, ETC, Haar wavelet, wavelet and Coiflet wavelet.