Abstract

Image Fusion is a process in which combine the relevant or same information from a set of images, into a single image that is more realistic, informative and complete than the previous input images. During the past two decades, many image fusion methods have been proposed and developed. Image Fusion methods are categorized into pixel, feature, and decision levels according to the stage at which image information is integrated. Image fusion algorithms help to achieve benefits like high accuracy and reliability, feature vector with higher dimensionality, faster acquisition of information and cost effective acquisition of information. The proposed technique Modified Haar Wavelet Transform is an enhanced version of Haar Wavelet Transform which can reduce the calculation work and is able to improve the contrast of the image. The main achievement of MHWT is sparse representation and fast transformation. In MHWT at each level, we need to store only half of the original data due to which it becomes more efficient. In this paper we implement Image Fusion MHWT (Modified Haar Wavelet Transformation) and compares its performance with Discrete Wavelet transform (DWT) using performance metrics of standard deviation, entropy and quality index. The modified technique MHWT shows better performance than the earlier methods. A thorough analysis and evaluation
of the proposed algorithm is conducted with the help of mathematical formulas.

References

Computer Science

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Image Fusion  DWT  MHWT  Haar Transform  Wavelet Transform