An Optimized Trade-off Decomposition Steganography Algorithm

Abstract

In this paper a modified Steganography algorithm is proposed. A fuzzification is performed in the message channel to compress the decomposed coefficients before embedding in the cover-image to get a new Stego-image. A relative embedding strength factor (ESF) is used for embedding the secret in the cover-image. The well known metrics (MSE, PSNR, Cor. and Entropy) were used to evaluate quality of the modified algorithm. Also, the trade-off factor was introduced to determine an optimum value for the ESF to get an acceptable degradation in the Stego-image. In addition, the reconstruction algorithm mentioned in previous paper was modified using the optimum value of the ESF. Comparisons show improved results w. r. t. other algorithms.

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Index Terms

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Keywords
Steganography  Cover-image  Secret-message  Decomposition  Fuzzy set