Abstract

A huge deployment of effective steganography by several techniques with varying degrees of payload, peak signal to noise ratio (PSNR), robustness, perceptual transparency and so on has been evidenced. Steganography has been effective as an alternative to cryptography and has been projected to the forefront of digital security by the explosive growth in computational power, security awareness and through widespread intellectual pursuit. The current techniques for Steganography reviewed include substitution method such as least significant bit (LSB) and transform domain methods such as discrete cosine transform (DCT) and discrete wavelet transform (DWT). In this paper, the techniques involved with LSB, DCT and DWT are analyzed with the proper use of the performance metrics and then the techniques have been modeled by computer simulations. The results from simulation indicate that the LSB technique, although
easy to implement and encode and having good payload capacity, is easily prone to statistical
attack, since the histogram plots are revealing the data hidden within. On the other hand,
transform domain techniques are more robust to statistical attacks but at the cost of reduced
payload.

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Index Terms

Computer Science

Steganography Software

Security

Keywords

Steganography Payload PSNR Histogram LSB DCT DWT Steganalysis
