Abstract

In this paper, author have propose a steganographic technique by using improved LSB (least significant bit) replacement method for 24 bit color image capable of producing a secret-embedded image that is totally indistinguishable from the original image by the human eye. In addition this paper shows that how improved LSB method for 24 bit color image is better than LSB technique for 8 bit color image. Firstly LSB method for both 8 bit and 24 bit color image are described and then improved LSB method for 24 bit color image, compare their result by calculating PSNR (Peak Signal-to-Noise Ratio), MSE (Mean Squared Error) and finally by histogram analysis. LSB Algorithm embedded MSB of secret image into LSB of cover image. In the case of 24 bit color image two methods are described. In first method, last 2 LSB of each plane (red, green and blue) of cover image, is replaced by 2 MSB of secret image. In the second method, last LSB of each red plane is replaced by first MSB of secret image, last 2 LSB of each green plane by next 2 MSB of secret image and then last 3 LSB of blue plane is replaced by next 3 MSB of secret image. This means that total 6 bits of secret image can be hide in 24 bit color image. Experimental results show that the stego-image is visually indistinguishable from the original cover-image in the case of 24 bit.
A Steganography Technique for Hiding Image in an Image using LSB Method for 24 Bit Color Image


Chung-Ming Wang a, Nan-I Wu a, “A high quality steganographic method with pixel-value differencing and modulus function,” accepted 24 January 2007


Index Terms

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Keywords

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Data hiding

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MSB

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