

## عنوان مقاله:

A New High Capacity and EMD-based Image Steganography Scheme in Spatial Domain

## محل انتشار:

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## خلاصه مقاله:

A new high capacity method for spatial domain image steganography is introduced in this paper. The proposed blockbased and high capacity steganographic method is the extended form of Zhang and Wang's EMD method and uses eight modification directions to hide multiple secret bits into a coverpixel pair at a time. The proposed algorithm has been optimized to select blocks of the image in a random order scheme, to eliminate the bias between the image and the confidential data. The suggested method has also been combined with the Yang's Inverted Pattern (IP) approach and personally defined XORed pattern (XORP) and XNORed pattern (XNORP) approaches to achieve further enhancement. Simulation results show that the proposed method can obtain various hiding capacities of 1 to 5 bpp and corresponding good visual qualities of either 53.68 to 30.05 dB or 52.97 to 29.40 dB in the case of  $4 \times 4$  or  $8 \times 8$  blocks, respectively. The experimental results show that our proposed method has better results in terms of both data embedding capacity and visual quality than that of previous works.

## کلمات کلیدی:

Data hiding, Steganography, EMD, Blockbased, High capacity, Visual quality

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