



A PSO BASED PREDICTION AND REVERSIBLE HISTOGRAM SHIFTING STEGANOGRAPHIC SCHEME

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Abstract—In this paper, we propose a steganographic scheme based on Particle Swarm Optimization (PSO) for prediction image and followed by Histogram shifting to embed secret data and obtain a stego image. The algorithm of PSO emulates from behavior of animals societies has been used by many applications of several problems. In this proposal, the optimal reference pixels are chosen and the prediction image is generated using PSO algorithm. Eventually, using the two selected groups of maxima points and minima points, the histogram of the error in prediction is shifted to embed the secret data reversibly. Since the same reference pixels can be exploited in the extraction procedure, the embedded secret bits can be extracted from the stego image correctly, and the cover image can be restored losslessly. The proposed scheme provides a better embedding rate and good visual quality when compared with recently used methods.

Keywords— *prediction image, steganography, Particle Swarm Optimization(PSO), histogram shifting, reversible data hiding.*

Full Text: www.ijcsma.com/publications/march2014/V2I322.pdf