High Capacity Data Embedding in Images by Pixel Triplets Matching

Abstract

In this paper a data hiding method based on pixel pair matching (PPM) is presented. Pixel pair matching uses a pair of pixel intensity values as reference coordinates and searches the coordinate neighborhood according to the given message digit. The searched coordinate which encodes the message digit is put in place of the pixel pair. Exploiting modification direction (EMD), Diamond Encoding (DE) and Adaptive Pixel Pair Matching (APPM) are recently proposed methods based on PPM. Among these Adaptive Pixel Pair Matching provides the highest capacity of embedding with a given distortion. This paper presents an extension of the method to higher dimensional coordinate system and in particular with Pixel Triplet Matching (PTM). The experiments showed that PTM achieves higher capacity while being computationally feasible. The method is also resistant to simple steganalysis with adjacent
References


Index Terms

Computer Science

Security
Keywords

Steganography  Diamond Encoding  Least Significant Bit  Pixel Pair Matching