A Data Hiding Scheme based on Voronoi Diagram

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Abstract. In this paper, we propose a novel image steganographic technique based on the Voronoi diagram. The basic idea is to generate a Voronoi diagram of a graph transformed from cover image; that is, the Voronoi points correspond to every two consecutive pixels in the cover image. According to the secret bits to be embedded, every Voronoi point will either be replaced by one of its neighbors or keep its original value. As a result, this scheme does not need any extra information, such as indicators, to extract the secret data. Furthermore, the experimental results show that the proposed scheme can achieve greater data hiding capacity with less distortion compared to related schemes.

Keywords: Steganography, data hiding, voronoi diagram, delaunay triangulation, PSO

References


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