A Robust Image Hiding Scheme based on Vector Quantization

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Abstract. This paper proposes a robust image hiding scheme based on vector quantization (VQ) technique. This scheme can resist the damages resulting from the processing of lossy image compression in stego-images. This scheme first compresses a secret image by VQ technique, and generates the parity codes for the compression data of the secret image. It then transforms the spatial-formatted cover image into a frequency-formatted one by discrete wavelet transform (DWT). The compression data of the secret image and the parity codes are then hidden in the DWT-formatted cover image. Experimental results tell that this scheme gives a high visual quality stego-image. After lossy compressing in the stego-image, the extracted secret image from the stego-image also has an acceptable visual quality.

Keywords: image data hiding, vector quantization (VQ), discrete wavelet transformation (DWT)

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