

基于预测失真的自适应两遍嵌入可逆图像水印

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摘要: 为了解决图像隐蔽性和水印嵌入容量之间相互矛盾的问题, 提出一种基于预测失真的自适应两遍嵌入可逆图像水印. 首先对图像进行分块, 利用方差衡量图像子块纹理性, 根据纹理性设置子块嵌入强度初始值; 然后对子块图像预测失真再动态调整嵌入强度; 最后利用嵌入强度自适应地进行两遍嵌入水印. 实验结果表明, 此方法可以在高容量嵌入时有效减少图像失真; 实现了高容量且有较高质量的可逆图像水印算法.

关键词: 可逆图像水印; 嵌入强度; 预测失真; 自适应; 高容量

Adaptive Two-pass Embedding Reversible Image Watermarking

Algorithm Based on Prediction Distortion

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Abstract: In order to solve the contradiction between the concealment of watermarked image and embedded watermark information capacity. A reversible image watermarking algorithm with adaptive two-pass based on prediction distortion embedding was proposed. Firstly, the image is divided into blocks, the texture complexity of the sub-blocks is measured by variance. and the initial value of sub-block embedding intensity is set according to the texture complexity. and then dynamically adjust the embedded intensity by sub-block prediction distortion. Finally, embedded watermarking is carried out by embedding intensity adaptive two-pass. The experimental results show that the proposed method can reduce image distortion effectively in high capacity embedding, A high-capacity and high-quality image reversible watermarking algorithm is implemented.

Key words: reversible image watermarking; embedding intensity; prediction distortion; adaptively embedding; high-capacity

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