

博士论坛

一种基于对象的二值图像重构算法

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摘要 在二值图像中, 对象是指值为1且邻接在一起的像素的集合。提出了一种基于对象的二值图像的重构算法。该算法利用二值图像中像素间自然的、基本的关系, 达到含有噪音的二值图像去噪的效果。首先将水印图像的所有邻接分量标注出来, 然后计算每个邻接分量包含的元素的数目; 因为噪音一般都是孤立的元素, 所以将数目最小的邻接分量中的所有元素置为0, 通过不断的循环直至水印图像中的邻接分量等于原始水印图像数目。实验结果证明, 该算法效果良好。

关键词 [二值图像](#) [对象](#) [邻接方式](#) [重构](#)

分类号

Object-based reconstruction algorithm of binary image

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Abstract

In the binary image, the object is a set of pixels which includes 1s linked together. In this paper, a reconstruction algorithm is presented that is based on the object of the binary image. This algorithm uses the basic relation between the natural pixels of the binary image, and reaches the aim of denoising the noised binary image. Firstly, all connected components of watermark are marked, and then calculating the number of elements for each component. Secondly, the noise elements are generally isolated ones, the connected components having smallest number are all changed, and all elements of which are setted to zeros. Thus, some program-cycles may be runned until the difference between the processed watermark and the original one is smaller than assigned threshold value. Experimental results show that this method is effective.

Key words [watermarking image](#) [object](#) [adjacent method](#) [reconstruction](#)

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