

博士论坛

灰度-梯度共生矩阵模型的加权条件熵阈值法

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摘要 基于二维灰度直方图的最大熵阈值法是依据“灰度-灰度均值”构成直方图的图像分割方法, 该方法着重于图像的内部信息, 忽略了边界区域的信息。应用图像的梯度信息建立“灰度-梯度共生矩阵”, 构造图像的二维灰度直方图, 结合最大条件熵法进行阈值选取。为了充分提取图像内部和边缘信息, 提出了二维加权最大熵阈值法。结果表明, 该方法一方面能够保留更多的图像边缘信息, 另一方面能够根据实际需要调节权值大小, 得到兼顾图像内部和边缘信息的分割结果。

关键词 [条件熵阈值法](#) [灰度-梯度共生矩阵](#) [加权](#) [图像分割](#)

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Maximum weighted conditional entropy threshold algorithm based on gray-gradient co-occurrence matrix model

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Abstract

The maximum entropic threshold method is a common image segmentation technology based on the “gray-gray means”. This approach focuses on extracting the internal information, but ignores the edge information. Using the image gradient information, this paper establishes “gray-gradient co-occurrence matrix”, combined with the maximum conditional entropy threshold selection formula. A 2-D weighted maximum entropic threshold method is presented to obtain the internal and edge informations of the image. The results show that this method can preserve the more image edge information. The conditional entropy can be weighted, the weights can be adjusted according to the actual requirements, the segmentation results both with internal and edge informations of the image can be obtained.

Key words [conditional entropic threshold method](#) [gray-gradient co-occurrence matrix](#) [weighted image segmentation](#)

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