

工程与应用

改进的Fast Marching方法在医学图像分割中的应用

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摘要 Fast Marching方法应用于医学图像分割取得了较好的分割结果,但是Fast Marching方法对边缘比较模糊的图像不能准确完整地分割出来。提出了一种结合像素间信任连接算法和Fast Marching方法的医学图像分割方法,首先用高斯滤波器对图像进行滤波,然后对图像用基于像素间信任连接的算法提取待分割图像中目标区域,取得较大的同质区,最后用Fast Marching方法对图像进行分割。实验结果表明,该方法对边缘模糊和目标内部存在伪边缘的医学图像能取得较好的分割结果。

关键词 [医学图像分割](#) [Fast Marching方法](#) [像素间信任连接](#)

分类号

Novel medical image segmentation method based on fast marching method

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Abstract

Fast marching method is widely used in medical image segmentation, and this method works well. But this method can not get good results in the blurred edge. In this paper, a novel medical image segmentation method based on fast marching method using confidence connected information of the objective region is proposed. Firstly, the medical images are smoothed by Gaussian filter, and then confidence connected method is used to produce a large homogenous region. Finally, the homogenous region is segmented with fast marching method. The results prove that the propose algorithm gets better outcomes.

Key words [medical image segmentation](#) [fast marching method](#) [confidence connected](#)

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