

## 基于改进活动轮廓模型的图像分割

王 芳, 潘 杰

(郑州升达经贸管理学院 信息工程系, 河南 郑州 451191)

**摘 要:** 为了增加图像分割的稳定性, 提高图像的分割精度, 提出一种改进活动轮廓模型的图像分割方法. 首先选择目标内部点作为轮廓初始点, 使初始点向边界点膨胀, 保证图像轮廓边缘的连续性, 然后采用改进贪婪算法去除了活动轮廓收缩趋势, 防止出现控制点堆积现象, 最后采用仿真试验对图像分割的效果进行分析, 结果表明, 改进活动轮廓模型不仅可以实现图像的准确分割, 而且对噪声具有较强的鲁棒性, 分割误差要小于其他分割模型, 具有广泛的应用前景.

**关键词:** 图像分割; 活动轮廓模型; 分割精度; 噪声鲁棒性

## Image Segment Based on Improved Active Contour Model

WANG Fang, PAN Jie

(Department of Information Engineering, Zhengzhou Shengda College of Economics & Trade Management, Zhengzhou 451191, China)

**Abstract:** In order to increase the stability of image segmentation and improve accuracy of image segmentation, this paper proposed an image segmentation method based on improved active contour model. Firstly, internal target contour is select as the initial point, and the initial point expand to boundary point to make more continuous and smooth edge, and secondly improved greedy algorithm is used to remove the shrinkage tendency of active contour, and prevent accumulation phenomenon of control points, finally, simulation experiment is used to analyze the effect of image segmentation. The results show that improved active contour model not only can achieve the accurate segmentation of image, but also has strong robustness to noise, and segmentation error is smaller than other image segmentation models, and has wide application prospects.

**Key words:** image segmentation; active contour model; segmentation precision; noise robustness

**作者简介:**

王 芳 女, (1973-), 硕士, 副教授. 研究方向为图形图像处理、虚拟现实. E-mail: wangfang0278@163.com

潘 杰 男, (1979-), 讲师, 硕士. 研究方向为信息检测与处理, 电子信息工程.