

图形、图像、模式识别

结合方差及方差梯度的指纹图像改进分割算法

蔡秀梅¹, 范九伦¹, 高新波², 张永健³

1.西安邮电学院 信息与控制系, 西安 710061

2.西安电子科技大学 电子工程学院, 西安 710071

3.西安电力电子技术研究所, 西安 710061

收稿日期 2009-1-8 修回日期 2009-3-17 网络版发布日期 2010-1-7 接受日期

摘要 通过对基于方差及方差梯度的指纹图像分割算法的分析, 提出一种改进算法。将指纹图像分块, 结合各块方差及其梯度信息, 自适应选取两个分割阈值, 分割后去除孤立图像块, 得到最终分割结果。实验表明, 该算法简单快速, 能够更有效地去除图像中的局部模糊区域, 同时更完整地保留有效指纹区。

关键词 [指纹分割](#) [方差](#) [方差梯度](#)

分类号 [TP391.41](#)

Improved algorithm for fingerprint segmentation based on variance and its gradient

CAI Xiu-mei¹, FAN Jiu-lun¹, GAO Xin-bo², ZHANG Yong-jian³

1.Department of Information and Control, Xi'an Institute of Post and Telecommunications, Xi'an 710061, China

2.School of Electronic Engineering, Xidian University, Xi'an 710071, China

3.Xi'an Power Electronics Research Institute, Xi'an 710061, China

Abstract

After the analysis of the fingerprint segmentation algorithm based on variance and its gradient, an improved algorithm is proposed. The fingerprint image is partitioned into blocks, and then the variance and its gradient of each block are calculated. Then two thresholds are computed adaptively. After segmentation, the isolated image blocks are wiped off to get the segmented result. The experimental results show that this algorithm runs quickly and can be programmed easily. It can remove the fuzzy areas more effectively and reserve the clear areas at the same time.

Key words [fingerprint segmentation](#) [variance](#) [gradient of variance](#)

DOI: 10.3778/j.issn.1002-8331.2010.01.052

通讯作者 蔡秀梅 caixiumei@xiyou.edu.cn

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