嵌入式系统中指纹图像细节特征自适应增强识别算法

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摘　要：提出基于 Gabor 滤波器的指纹识别算法研究，先对采集到的指纹图像进行预处理，获取指纹有效区域的大小、指纹图像灰度等信息；基于 Gabor 滤波器对均衡化、归一化的指纹图像分割处理，并进行滤波增强；最后对增强处理后的指纹进行特征提取、分类和细节匹配，实现嵌入式系统中指纹的精确识别. 实验结果表明，提出的指纹识别算法具有更高识别效率和识别精度，在嵌入式系统中的应用效果良好.

关键词： 嵌入式系统；指纹识别；Gabor 滤波器；特征提取；细节匹配

Adaptive Recognition Algorithm for Fingerprint Image

Detail Feature in Embedded System

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Abstract：Fingerprint recognition based on Gabor filter algorithm research, the preprocessing of fingerprint images were collected to obtain effective area the size of the fingerprint, fingerprint image gray level information. Based on Gabor filter of equalization, normalization of fingerprint image segmentation, filtering and enhancement; After the process of enhancing the fingerprint feature extraction, classification and details matching, realize the precise identification of fingerprints in the embedded system. Fingerprint identification algorithm is put forward by the experimental results show that the recognition efficiency and higher identification accuracy, in the embedded system application effect is good.

Key words：Embedded system; Fingerprint identification; Gabor filter; Feature extraction; Details of the match

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