

Hardware efficient vein enhancement and feature extraction method

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Abstract

In this paper, an improved method for vein enhancement and feature extraction is proposed. The proposed method is aimed to be implemented in hardware. It uses image resampling to reduce the number of pixels in the vein image, thus reducing the cost of computation. Then, Difference of Gaussian (DoG) and thresholding are used to segment the vein image. Finally, thinning is applied to get single line veins. The experimental results and analysis show that the proposed method speeds up the processing time and is effective to detect veins in images. The method also reduces the use of hardware resources and storage, making it suitable for hardware implementation.

Author keywords

Difference of Gaussian (DoG), Image resampling, Thinning, Thresholding, Vein enhancement and feature extraction