عنوان مقاله:

Sketch Based Retina Identification Using Angular Partitioning

محل انتشار:

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خلاصه مقاله:

This paper presents a new human identification system based on features obtained from retina images using angular partitioning of the images. The proposed algorithm is composed of two principal stages including feature extraction and decision making. In the feature extraction stage, first all of the images are normalized in a preprocessing step. Then, the blood vessels' pattern is extracted from retina images and a morphological thinning process is applied on the extracted pattern. After thinning, a feature vector based on the angular partitioning of the pattern image is extracted from the blood vessels' pattern. The extracted features are rotation and scale invariant and robust against translation. In the next stage, the extracted feature vector is analyzed using 1D discrete Fourier transform and the Manhattan metric is used to measure the closeness of the feature vector to have a compression on them. Experimental results on a database, including 360 retina images obtained from 40 subjects, demonstrated an average true identification accuracy rate equal to 98 percent for the proposed system.

کلمات کلیدی:

Human identification, Retina, Sketch of Vessels, and Angular partitioning.

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