Abstract

Automatic identification/verification of a person through biometrics has been getting extensive attention due to an increasing importance of security. The most popular biometric authentication scheme employed for the last few years is Iris Recognition. The performance of iris recognition system highly depends on segmentation. For instance, even an effective feature extraction method would not be able to obtain useful information from an iris image that is not segmented accurately. The iris proposed recognition module consists of the preprocessing system, segmentation, feature extraction and recognition. Mainly it focuses on image segmentation using Geodesic Active Contours and comparison with traditional methods of segmentation. As active contours can 1) assume any shape and 2) segment multiple objects at the same time, they lessen some of the concerns related with conventional iris segmentation models. The iris texture is extracted in an iterative fashion by considering both local and global properties of the image. The matching accuracy of an iris recognition system is observed to improve upon application of the proposed segmentation algorithm. Experimental results on the CASIA (Institute of Automation, Chinese Academy of Sciences) Interval version3 iris databases implemented in MATLAB shows the efficiency of the proposed technique application.
Iris Segmentation using Geodesic Active Contour for Improved Texture Extraction in Recognition

References


"The CASIA iris image database," http://www.sinobiometrics.com

Index Terms

Computer Science Pattern Recognition

Keywords

Iris Recognition Iris Segmentation Level Sets Snakes Geodesic Active Contours (gacs) Iriscodes