IRIS Pattern Recognition using Self-Organizing Neural Networks

Abstract

With an increasing emphasis on security, automated personal identification based on biometrics has been receiving extensive attention over the past decade. Iris recognition, as an emerging biometric recognition approach is receiving interest in both research and practical applications. Iris is a kind of physiological biometric feature. It contains unique texture and is complex enough to be used as a biometric signature. Compared with other biometric features such as
face and fingerprint, iris patterns are more stable and reliable. This paper describes an iris recognition system, composed of iris image acquisition, iris image preprocessing, neural network training process and pattern matching. In this paper a digitally captured iris image is acquired and is then preprocessed. This is needed to remove the unwanted parts that are usually captured along with the iris image, to prevent effects due to a change in camera-to-face distance and also due to non-uniform illumination. The image thus obtained is trained using self organizing map (SOM) and finally decision is made by matching.

References


Index Terms

Computer Science

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Keywords

Iris Pattern Recognition  Self-organizing Neural Networks