

A HYBRID SYSTEM FOR IRIS RECOGNITION WITH HIGH ACCURACY

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ABSTRACT

A biometric system gives automatic identification or proof of a person in perspective of a unique feature or characteristic controlled by the person. Iris recognition is regarded as the most reliable and accurate biometric identification system available. The work presented in this thesis involved developing an 'open-source' iris recognition system in order to verify both the uniqueness of the human iris and also its performance as a biometric. For determining the recognition execution of the system two databases of digitised greyscale eye images were utilized. The iris recognition system consists of an automatic segmentation system that is based on the wavelet transform, and is able to localise the circular iris and pupil region, occluding eyelids and eyelashes, and reflections. The extracted iris region were taken into consideration according to hybrid model (PSO and GA) then normalised into a rectangular block with constant dimensions to account for imaging inconsistencies. The Hamming separation was used for gathering of iris formats, and two templates were found to match if a test of statistical independence was failed. The system performed with idealize recognition on an arrangement of eye images. Subsequently, iris recognition is appeared to be a efficient biometric innovation.

KEYWORDS: Human Iris, Iris Recognition, Features Encoding Algorithms, Matching Algorithms, Particle Swarm Optimization & Genetic Algorithm

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