ANALYSIS THE EFFICIENCY & CROSSOVER ACCURACY BIOMETRIC TECHNOLOGY BY MATLAB

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ABSTRACT: Biometrics is technology of identifying human subjects by means of measuring & analyzing more than one intrinsic behavioral / physical trait. Such human body characteristics consist of fingerprints, eye retinas, voice patterns, irises, facial patterns & hand measurements. Biometric systems consist of applications that makes use of biometric technologies & allow identification and verification / authentication automatically. In principle, processing of personal data that involves use of a biometric system is considered by privacy experts to be justified within a place that demands a high level of security & strict identification procedures.

[1] Introduction

Face detection is a technique which refers to detection of face automatically by digital camera. Face Recognition is a term used for recognition of a person automatically/independently by computerized systems by taking a look at his/her face. Face detection is a popular characteristics used in biometrics, social tagging & digital cameras. Face detection & recognition has gained/earn more research attentions in last few years. Face detection is an almost unique biometric identity. There is very few chance of having two similar faces. For security hardening it could used in combination with key card or smart card. Face detection are very important feature in social tagging & digital camera. In digital cameras, Face detection is used because it controls contrast on face in clicked picture & it could also help to view clearer face than click without face detection. In social tagging, face tagging is used for tag people in picture or post.

Neural Network & Fuzzy Sets

Artificial Neural Networks (ANNS) is a family of statistical learning models inspired by biological neural network (the central nervous systems of animals, in particular brain) & is used to estimate or approximate functions that could depend on a big number of inputs & are generally unknown. An artificial neural network is usually presented as systems of interconnected neuron that send messages to every other. The connections had numeric weights that could be tuned based on experience capable of learning.

Neural Network is a system of programs & data structures that approximates operation of human brain. A neural network usually involves a large number of processors operating in parallel, every with its own small sphere of knowledge & access to data in its local memory. Typically, a neural network are initially "trained" or fed large amounts of data & rules about data relationships.

Back propagation, abbreviation for backward propagation of errors/mistakes, is a common method of training artificial neural networks used in conjunction within an optimization rule such that gradient descent.