Biometric Recognition and Its Applications: A Mini Review

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Abstract

Numerous studies on the nature of past and future climate change have ranged in scope from the worldwide work through regional to local studies involving a combination of observation and modelling. The challenges of peripherally on climate change adaptation using examples from communities in the Northwest periphery of Europe.

Keywords: Implementation • NMF algorithm

Introduction

The presentations presented at the Seventh International Conference on Intelligent Computing (ICIC 2011), which took place on August 11–14, 2011, are expanded versions in the book Advanced Theory and Methodology in Intelligent Computing. All the documents terms on this page have been carefully examined and edited with many reviewers' assistance under the Elsevier Editorial System (EES) (EES). 42 papers, or less than 6% of the total, Selected papers from the 2011 ICIC that meet the criteria are included. In this particular edition the chosen papers have been arranged into the subsequently sections.

By using the information processing capabilities of spiking neurons, Attention model is built on hierarchical spiking neural networks. An intriguing essay that provides an insightful discussion on extended alternating projection neural networks follows this. There are two additional studies on discrete-time stochastic neural networks and stability analysis for feedback. In addition, seven other papers deal with the applications of neural networks and their variants in the real-world. These applications show that neural network models are successfully applied to solving problems previously considered too challenging. In the realm of pattern recognition nowadays, biometric recognition is a very hot topic. [1-3].

First, in this section, we provided an effective partial occluded face recognition system, an efficient indexing for a face database using modified geometric hashing, and a palm print-based recognition method employing local structure tensor and force field transformation. In addition, there are eight papers on hand gesture tracking and recognition using Lucas–Canada algorithms, face aging simulation and recognition based on an NMF algorithm.

Literature Review

As ID cards, punch cards, secret passwords, and PINs are utilized for personal identification, the importance of a person's identification is growing. Passwords can be stolen, as can IDs. Can be overlooked or broken. Biometric authentications all the aforementioned. There may be additional security measures using any of the biometric features that are available. The fingerprints, face, hand shape, voice, and other characteristics these biometric traits, such as the iris, and can be employed for authentication computer-based security systems' intended use. [4].

First, in this section, we provided an effective partial occluded face recognition system, an efficient Local Binary Pattern (LBP) and Local Phase Quantization (LPQ) based on Gabor filter for face representation, sparse representation based classification for face recognition, implementation of an interactive interview system using hand gesture recognition, motor imagery EEG adaptive classification based biomimetic recognition, gesture recognition system with a retina-V1 model and one-pass dynamic programming, and attribute-based knowledge transfer learning for human pose estimation. In the realm of pattern recognition nowadays, biometric recognition is a very hot topic. indexing for a face database using modified geometric hashing, and a palm print-based recognition method employing local structure tensor and force field transformation describes an approach to two-stage learning for multi-class classification using genetic programming.

Behavioral type of biometric

Identification techniques based on behavior pay attention to a person's activities, offering the user the chance to manage those actions. These approaches only work when used consistently because biometrics based on them incorporate a high level of inner variations (mood, health state, etc.). Keystroke, signature, and voice are all included. The speed of the typing also depends on the mood of a person and a time of a day. Biometric keystroke recognition – is a technology of recognizing people from the way they are typing. It is rather important to understand that this technology does not deal with "what" is written but "how" it is written.

Biometrics is an effective personal identifier because the characteristics measured are distinct to each person. Unlike other identification methods that use something a person has, such as an identification card to gain access to a building, or something a person knows, like a password or PIN to log on to a computer system, the bio-metric characteristics are integral to something a person is, since biometrics are tightly bound to an individual, they are more reliable, cannot be forgotten, and are less likely to be lost, stolen, or otherwise compromised [5].

Conclusion

The use of biometrics raises several privacy questions such as in case of face recognition technology privacy will be wiped out. In spite of all these, it is quite sure that in future biometric based recognition will have a great influence on our daily routine and business. The biometric systems overcome the drawbacks of the traditional computer based security systems. The biometric recognition systems have been proved to be accurate and very effective in various applications. The biometric features can be easily acquired and measured for the processing only in the presence of a person.

Conflict of Interest

The authors declare that there was no conflict of interest in the present study.

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