

Fingerprint Image Enhancement

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Abstract

The performance of fingerprint recognition algorithms is highly affected by the quality of the input fingerprint images. Fingerprint images are rarely of perfect quality. They may be degraded and corrupted due to variations in skin and impression conditions. Thus, image enhancement techniques are often employed to reduce the noise and enhance the definition of ridges against valleys.

The objective of this paper is to present a fingerprint image enhancement approach. Two methods are adopted for Image Enhancement: the first one is based on Fourier Transform and the other is Histogram Equalization. The input images are fingerprint images from FVC2002 database. The experiment results suggest that our enhanced algorithm achieves visibly good results with relatively modest computation time.

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Conference Program

12.07.2010 Monday

09.00 - 09.30 Registration

09.30 - 10.00 Opening Ceremony (Red Hall)

10.00 - 10.30 Coffee Break

10.30 - 11.30 - Keynote - Nik Bessis - Emerging Computational Technologies for Advancing Virtual Organizations and Web Communities

11.30 - 12.50 Sessions 1 A - Neural and Wireless Networks (Red Hall)

11.30 -11.50 Ayşegül Güven, Fatma Latifoğlu, Hayriye Hisar
Principal Component Analysis- Neural Network Methodology for Parkinson Disease Detection

11.50 – 12.10 Hojjat Ahmadi
Prediction of Defects in Roller Bearings using Artificial Neural Network Classifier

12.10 -12.30 Onur TOKER
Delay Sensitive Wireless Protocols for Telerobotics Applications
12.30-12.50 Hadi Mikaili Manie
CAF: An Energy-aware Connection-based Routing Protocol for Wireless Sensor Networks

1 B - Image Processing (Blue Hall)

11.30 -11.50 Serdar YILMAZ, Metin SALDİMHUŞDN
Face Detection Using Template Face Mask

11.50 – 12.10 Feryal I. Ha j Hassan, Salah Rahal

Fingerprint Image Enhancement

12.10 -12.30 Djamel Kehil, Aïssa Belmeguenai and Youcef Ferdi
Image Encryption Using New Mersenne Number Transform and Discrete Cosine Transform

12.30-12.50 Abdul Manan Ahmad, Sami M Halawani
Accurate Hand Shape Detection Using Boosted Classifier

12.50-13.10

Maryam Omid Najafabadi

A Hybrid course for Probability and Statistics for engineers: An ordinal factor analysis of e-readiness

14.00 - 16.00 – Sessions 1 A - Neural and Wireless Networks (Contd.) (Red Hall)

2 A - Ontology/Semantics/ XML (Blue Hall)

- 14.00-14.20 Semra İçer, Aysegül Güven, Muhammet Baki

Classification with the Neural Network Application of Basic Hearing Losses Determined by Audiometric Measuring

14.20 -14.40

Hojjat Ahmadi

Data mining based on statistical parameters to improve accuracy of fault classification of SAR-1 outboard fire pump by neural network

14.40-15.00 Jamshid Bagherzadeh, Saeed Seyyedi

A reward based method for wireless sensor network clustering
- 14.20-14.40 Tadeusz Pankowski

Semantic aware matching and mapping for XML schemas

14.40-15.00 Jalal Laassiri

A Formal Semantics of Concepts in Information Language in ODP Systems

15.00-15.20 Sofien KHEMAKHEM, Khalil DRIRA

Ontology-based discovery and integration

15.20-15.40 Nada Bajnaid, Rachid Benlamri, Boris Cogan

Ontology-Based E-Learning System for SQA Compliant Software Development

12.50 - 14.00 Lunch