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Advances in Soft Computing

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Preface

The research scenario in advanced systems for protecting critical infrastructures and for deeply networked information tools highlights a growing link between security issues and the need for intelligent processing abilities in the area of information systems. To face the ever-evolving nature of cyber-threats, monitoring systems must have adaptive capabilities for continuous adjustment and timely, effective response to modifications in the environment. Moreover, the risks of improper access pose the need for advanced identification methods, including protocols to enforce computer-security policies and biometry-related technologies for physical authentication. Computational Intelligence methods offer a wide variety of approaches that can be fruitful in those areas, and can play a crucial role in the adaptive process by their ability to learn empirically and adapt a system's behaviour accordingly.

The International Workshop on Computational Intelligence for Security in Information Systems (CISIS) proposes a meeting ground to the various communities involved in building intelligent systems for security, namely: information security, data mining, adaptive learning methods and soft computing among others. The main goal is to allow experts and researchers to assess the benefits of learning methods in the data-mining area for information-security applications. The Workshop offers the opportunity to interact with the leading industries actively involved in the critical area of security, and have a picture of the current solutions adopted in practical domains.

This volume of *Advances in Soft Computing* contains accepted papers presented at CISIS'08, which was held in Genova, Italy, on October 23rd–24th, 2008. The selection process to set up the Workshop program yielded a collection of about 40 papers. This allowed the Scientific Committee to verify the vital and crucial nature of the topics involved in the event, and resulted in an acceptance rate of about 60% of the originally submitted manuscripts.

CISIS'08 has teamed up with the *Journal of Information Assurance and Security (JIAS)* and the *International Journal of Computational Intelligence Research (IJCIR)* for a suite of special issues including selected papers from CISIS'08. The extended papers, together with contributed articles received in response to subsequent open calls, will go through further rounds of peer refereeing in the remits of these two journals.

We would like to thank the work of the Programme Committee Members who performed admirably under tight deadline pressures. Our warmest and special thanks go to the Keynote Speakers: Dr. Piero P. Bonissone (Coolidge Fellow, General Electric Global Research) and Prof. Marios M. Polycarpou (University of Cyprus). Prof. Vincenzo Piuri, former President of the IEEE Computational Intelligence Society, provided invaluable assistance and guidance in enhancing the scientific level of the event.

Particular thanks go to the Organising Committee, chaired by Dr. Clotilde Canepa Fertini (IIC) and composed by Dr. Sergio Decherchi, Dr. Davide Leoncini, Dr. Francesco Picasso and Dr. Judith Redi, for their precious work and for their suggestions about organisation and promotion of CISIS'08. Particular thanks go as well to the Workshop main Sponsors, Ansaldo Segnalamento Ferroviario Spa and Elsag Datamat Spa, who jointly contributed in an active and constructive manner to the success of this initiative.

We wish to thank Prof. Dr. Janusz Kacprzyk (Editor-in-chief), Dr. Thomas Ditzinger (Senior Editor, Engineering/Applied Sciences) and Mrs. Heather King at Springer-Verlag for their help and collaboration in this demanding scientific publication project.

We thank as well all the authors and participants for their great contributions that made this conference possible and all the hard work worthwhile.

October 2008

Emilio Corchado
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Contents

Computational Intelligence Methods for Fighting Crime

An Artificial Neural Network for Bank Robbery Risk Management: The OS.SI.F Web On-Line Tool of the ABI Anti-crime Department <i>Carlo Guazzoni, Gaetano Bruno Ronsivalle</i>	1
Secure Judicial Communication Exchange Using Soft-computing Methods and Biometric Authentication <i>Mauro Cislaghi, George Eleftherakis, Roberto Mazzilli, Francois Mohier, Sara Ferri, Valerio Giuffrida, Elisa Negroni</i>	11
Identity Resolution in Criminal Justice Data: An Application of NORA <i>Queen E. Booker</i>	19
PTK: An Alternative Advanced Interface for the Sleuth Kit <i>Dario V. Forte, Angelo Cavallini, Cristiano Maruti, Luca Losio, Thomas Orlandi, Michele Zambelli</i>	27

Text Mining and Intelligence

Stalker, a Multilingual Text Mining Search Engine for Open Source Intelligence <i>F. Neri, M. Pettoni</i>	35
Computational Intelligence Solutions for Homeland Security <i>Enrico Appiani, Giuseppe Buslacchi</i>	43
Virtual Weapons for Real Wars: Text Mining for National Security <i>Alessandro Zanasi</i>	53

Hypermetric k-Means Clustering for Content-Based Document Management
Sergio Decherchi, Paolo Gastaldo, Judith Redi, Rodolfo Zunino 61

Critical Infrastructure Protection

Security Issues in Drinking Water Distribution Networks
Demetrios G. Eliades, Marios M. Polycarpou 69

Trusted-Computing Technologies for the Protection of Critical Information Systems
Antonio Lioy, Gianluca Ramunno, Davide Vernizzi 77

A First Simulation of Attacks in the Automotive Network Communications Protocol FlexRay
Dennis K. Nilsson, Ulf E. Larson, Francesco Picasso, Erland Jonsson 84

Wireless Sensor Data Fusion for Critical Infrastructure Security
Francesco Flammini, Andrea Gaglione, Nicola Mazzocca, Vincenzo Moscato, Concetta Pragliola 92

Development of Anti Intruders Underwater Systems: Time Domain Evaluation of the Self-informed Magnetic Networks Performance
Oswaldo Faggioni, Maurizio Soldani, Amleto Gabellone, Paolo Maggiani, Davide Leoncini 100

Monitoring and Diagnosing Railway Signalling with Logic-Based Distributed Agents
Viviana Mascardi, Daniela Briola, Maurizio Martelli, Riccardo Caccia, Carlo Milani 108

SeSaR: Security for Safety
Ermete Meda, Francesco Picasso, Andrea De Domenico, Paolo Mazzaron, Nadia Mazzino, Lorenzo Motta, Aldo Tamponi 116

Network Security

Automatic Verification of Firewall Configuration with Respect to Security Policy Requirements
Soutaro Matsumoto, Adel Bouhoula 123

Automated Framework for Policy Optimization in Firewalls and Security Gateways <i>Gianluca Maiolini, Lorenzo Cignini, Andrea Baiocchi</i>	131
An Intrusion Detection System Based on Hierarchical Self-Organization <i>E.J. Palomo, E. Domínguez, R.M. Luque, J. Muñoz</i>	139
Evaluating Sequential Combination of Two Genetic Algorithm-Based Solutions for Intrusion Detection <i>Zorana Banković, Slobodan Bojanić, Octavio Nieto-Taladriz</i>	147
Agents and Neural Networks for Intrusion Detection <i>Álvaro Herrero, Emilio Corchado</i>	155
Cluster Analysis for Anomaly Detection <i>Giuseppe Lieto, Fabio Orsini, Genoveffa Pagano</i>	163
Statistical Anomaly Detection on Real e-Mail Traffic <i>Maurizio Aiello, Davide Chiarella, Gianluca Papaleo</i>	170
On-the-fly Statistical Classification of Internet Traffic at Application Layer Based on Cluster Analysis <i>Andrea Baiocchi, Gianluca Maiolini, Giacomo Molina, Antonello Rizzi</i>	178
Flow Level Data Mining of DNS Query Streams for Email Worm Detection <i>Nikolaos Chatzis, Radu Popescu-Zeletin</i>	186
Adaptable Text Filters and Unsupervised Neural Classifiers for Spam Detection <i>Bogdan Vrusias, Ian Gollidge</i>	195
A Preliminary Performance Comparison of Two Feature Sets for Encrypted Traffic Classification <i>Riyad Alshammari, A. Nur Zincir-Heywood</i>	203
Dynamic Scheme for Packet Classification Using Splay Trees <i>Nizar Ben-Neji, Adel Bouhoula</i>	211

A Novel Algorithm for Freeing Network from Points of Failure
Rahul Gupta, Suneeta Agarwal 219

Biometry

A Multi-biometric Verification System for the Privacy Protection of Iris Templates
S. Cimato, M. Gamassi, V. Piuri, R. Sassi, F. Scotti 227

Score Information Decision Fusion Using Support Vector Machine for a Correlation Filter Based Speaker Authentication System
Dzati Athiar Ramli, Salina Abdul Samad, Aini Hussain 235

Application of 2DPCA Based Techniques in DCT Domain for Face Recognition
Messaoud Bengherabi, Lamia Mezai, Farid Harizi, Abderrazak Guessoum, Mohamed Cheriet 243

Fingerprint Based Male-Female Classification
Manish Verma, Suneeta Agarwal 251

BSDT Multi-valued Coding in Discrete Spaces
Petro Gopych 258

A Fast and Distortion Tolerant Hashing for Fingerprint Image Authentication
Thi Hoi Le, The Duy Bui 266

The Concept of Application of Fuzzy Logic in Biometric Authentication Systems
Anatoly Sachenko, Arkadiusz Banasik, Adrian Kapczyński 274

Information Protection

Bidirectional Secret Communication by Quantum Collisions
Fabio Antonio Bovino 280

Semantic Region Protection Using Hu Moments and a Chaotic Pseudo-random Number Generator
Paraskevi Tzouveli, Klimis Ntalianis, Stefanos Kollias 286

Random r-Continuous Matching Rule for Immune-Based Secure Storage System
Cai Tao, Ju ShiGuang, Zhong Wei, Niu DeJiao 294

Industrial Perspectives

nokLINK: A New Solution for Enterprise Security <i>Francesco Pedersoli, Massimiliano Cristiano</i>	301
SLA & LAC: New Solutions for Security Monitoring in the Enterprise <i>Bruno Giacometti</i>	309
Author Index	317