Lecture Notes in Computer Science 5376

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Daniel Ortiz-Arroyo
Henrik Legind Larsen   Daniel Dajun Zeng
David Hicks   Gerhard Wagner (Eds.)

Intelligence and Security Informatics

First European Conference, EuroISI 2008
Esbjerg, Denmark, December 3-5, 2008
Proceedings

Springer

Volume Editors

Daniel Ortiz-Arroyo
Computer Science Department
Aalborg University Esbjerg, Denmark
E-mail: do@cs.aaue.dk

Henrik Legind Larsen
Computer Science Department
Aalborg University Esbjerg, Denmark
E-mail: hll@sis-rc.org

Daniel Dajun Zeng
MIS Department
University of Arizona, Tucson, AZ, USA
E-mail: zeng@email.arizona.edu

David Hicks
Computer Science Department
Aalborg University Esbjerg, Denmark
E-mail: hicks@cs.aaue.dk

Gerhard Wagner
European Commission
Joint Research Centre, Ispra, Italy
E-mail: gerhard.wagner@jrc.it

Library of Congress Control Number: 2008940518

CR Subject Classification (1998): H.4, H.3, C.2, H.2, D.4.6, K.4.1, K.5, K.6

LNCS Sublibrary: SL 4 – Security and Cryptology

ISSN 0302-9743
ISBN-10 3-540-89899-9 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-89899-3 Springer Berlin Heidelberg New York

Springer is a part of Springer Science+Business Media

springer.com

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 12582617 06/3180 5 4 3 2 1 0

Preface

This volume constitutes the proceedings of the First European Conference on Intelligence and Security Informatics, EuroISI 2008, held in Esbjerg Denmark, December 3–5, 2008.

Intelligence and security informatics (ISI) is a multidisciplinary field encompassing methodologies, models, algorithms, and advanced tools for intelligence analysis, homeland security, terrorism research as well as security-related public policies. EuroISI 2008 was the first European edition of the series of ISI symposiums that have been held annually in the USA since 2003, and more recently in Asia. These meetings gather together people from previously disparate communities to provide a stimulating forum for the exchange of ideas and results. Participants have included academic researchers (especially in the fields of information technologies, computer science, public policy, and social and behavioral studies), law enforcement and intelligence experts, as well as information technology companies, industry consultants and practitioners in the relevant fields.

These proceedings contain 25 original papers, out of 48 submissions received, related to the topics of intelligence and security informatics. The papers cover a broad range of fields such as: social network analysis, knowledge discovery, web-based intelligence and analysis, privacy protection, access control, digital rights management, malware and intrusion detection, surveillance, crisis management, and computational intelligence, among others. Additionally to the main conference, a poster section was organized.

With the organization of EuroISI 2008, we hope to have fostered important collaborations, not only among the European-based researchers and practitioners but also among researchers from other regions of the world. We believe that this is particularly important at this stage where the ISI core set of research methodologies and approaches is beginning to mature.

We wish to thank all contributors for their excellent papers and the referees, publisher and sponsors for their efforts. Special thanks also to the invited speakers and members of the Program Committee. They made the success of EuroISI 2008 possible.

December 2008

Daniel Ortiz-Arroyo
Henrik Legind Larsen
Daniel Dajun Zeng
David Hicks
Gerhard Wagner

Organization

EuroISI 2008 was organized by Aalborg University, the European Joint Research Centre, and the University of Arizona.

Executive Committee

Conference Chair	Daniel Ortiz-Arroyo (Aalborg University, Denmark)
Co-chair	David Hicks (Aalborg University, Denmark)
Co-chair	Gerhard Wagner (European Commission, Joint Research Centre, Italy)
Honorary Chair	Hsinchun Chen (University of Arizona, USA
Program Chair	Henrik Legind Larsen (Aalborg University, Denmark)
Program Co-chair	Daniel Dajun Zeng (University of Arizona, USA and Chinese Academy of Sciences, China)
Organizing Chair	Akbar Hussain (Aalborg University, Denmark)
Organizing Co-chair	Andrea Valente (Aalborg University, Denmark)
Local Arrangements and Web Site	Sandra Del-Villar Lazcano

Program Committee

Conference Chair	Daniel Ortiz-Arroyo (Aalborg University, Denmark)
Program Chair	Henrik Legind Larsen (Aalborg University, Denmark)
Program Co-chair	Daniel Dajun Zeng (University of Arizona, USA and Chinese Academy of Sciences, China)

Referees

Ajith Abraham, Norway
Tayfur Altiok, USA
Dragos Arotaritei, Romania
Antonio Badia, USA
Patrick Bosc, France
Debrup Chakraborty, Mexico
Richard Chbeif, France
Guy De Tre, Belgium
Kevin C. Desouza, USA
Marek Druzdzel, Poland
Dennis Egan, USA
Vladimir Estivill-Castro, Australia
Uwe Glasser, Canada
Nazli Goharian, USA
Mark Goldberg, USA
Paul Hofmann, USA
Dil Hussain, Denmark
Janusz Kacprzyk, Poland

Paul Kantor, USA
Juha Knuuttila, Finland
Don Kraft, USA
Henrik Legind Larsen, Denmark
Seok-Won Lee, USA
Gondy Leroy, USA
Ee-peng Lim, Singapore
Sushmita Mitra, India
Guillermo Morales-Luna, Mexico
Robert Moskovitch, Israel
Fredrick Mtenzi, Ireland
Clifford Neuman, USA
Daniel Ortiz-Arroyo, Denmark
Gabriella Pasi, Italy
Warren Powell, USA
Yael Radlauer, Israel
Victor Ralevich, Canada
Francisco Rodríguez-Henriquez, Mexico
Elie Sanchez, France
Antonio Sanfilippo, USA
Charles Shoniregun, UK
Joshua Sinai, USA
David B. Skillicorn, Canada
Randy Smith, USA
Nicolas Spyratos, France
Clark Thomborson, New Zealand
Paul Thompson, USA
Scott Tousley, USA
Cedric Ulmer, USA
Nalini Venkatasubramanian, USA
Alan Wang, USA
Fei-Yue Wang, China
Jennifer Xu, USA
Chris Yang, Hong Kong
Slawomir Zadrozny, Poland
Daniel Zeng, USA
Nan Zhang, USA
Lina Zhou, USA
Willam Zhu, China

Sponsoring Institutions

Aalborg University, Esbjerg Institute of Technology, Denmark
The Obel Family Fundation, Aalborg, Denmark
XSIS ApS, Virum, Denmark
IEEE Systems Man and Cybernetics Society
European Joint Research Centre

Table of Contents

Abstracts of Plenary Talks

Criminal and Social Network Analysis

Intelligence Analysis and Knowledge Discovery

Web-Based Intelligence Monitoring and Analysis

Privacy Protection, Access Control, and Digital Rights Management

Malware and Intrusion Detection

Surveillance and Crisis Management

Posters