Special Issue of the
Journal of Ambient Intelligence and Humanized Computing
Advances in Homeland Defense Technologies

Guest Editors
Aniello Castiglione
University of Salerno, Italy
castiglione@ieee.org

Kangbin Yim
SCH University, Korea
yim@sch.ac.kr

Ilseun You
Korean Bible Univ., Korea
isyou@bible.ac.kr

Overview
Security subjects are becoming hugely important in the light of the development and deployment of new Homeland Defense solutions. Such solutions require the design of new computer systems and techniques allowing security procedures to be executed on many different planes, from system, communication and organization security to the security of the state and ensuring its defense capabilities. Advanced IT technologies based on intelligent algorithms that can analyze group behavior and interpret complex patterns or situations are increasingly frequently becoming the building blocks of the above solutions. In this context, it is worth noting research that combines security and defense aspects with achievements in designing advanced systems for the acquisition and sophisticated semantic analysis of complex image patterns and group behaviors. Such systems use cognitive models of semantic interpretation and can be applied to develop e.g. algorithms and protocols used for the security of computer systems themselves, but also to ensure the confidentiality and security of communication networks. They can also be employed to develop globally understood safe solutions connected with activities to strengthen national defense capability.

The main purpose of this special issue is to invite researchers from academia and industry as well as practitioners to contribute ideas, show up problems and describe solutions regarding the multifaceted aspects of Homeland Defense Technologies, particularly aiming to promote more state-of-the-art research in this area.

Topics (included, but not limited to)
- Homeland Security and Information Processing
- Personal Security and Biometric
- Intelligent Robots and Unmanned Vehicles
- Target and Pattern Recognition
- Sensor and Data Analysis
- Semantic Image and Data Processing
- Information Fusion
- Advanced Vision Algorithms
- Security in Ambient Intelligence
- Context- and Location-aware Computing
- Embedded Systems in Security
- Knowledge-based Systems for Internet Security
- Security Issues and Protocols for Internet Services
- Privacy and Trust for Internet Services
- Artificial Intelligence and Computational Intelligence

1 Corresponding Guest Editor: Aniello Castiglione <castiglione@acm.org, castiglione@ieee.org>
- Cognitive Informatics
- Mathematical foundations of computing and cryptography
- Biologically inspired information systems and secret data management
- Cognitive image and scene understanding
- Intelligent Health Technologies

**Important Dates:**

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<td>Indication of Interests:</td>
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- Each paper should substantially and genuinely be revised and improved from the earlier version submitted to the SeCIHD-2012 conference with at least 30% new materials or results to comply with the copyright regulations of the AIHC journal.

- Each paper should cite its version of the SeCIHD-2012 paper and clearly describe the main difference between the new and the old version.

- Due to the copyright problem, each paper's contents should be different from its SeCIHD-2012 version as possible as it can. Especially, each paper should include at least the title, abstract, introduction, conclusion, figures, and tables which are different from its previous version.

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that the publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation. Note that the manuscript length should be 10-12 pages in the format of the journal defined in the “Instructions for Authors” hyperlink located at the right side of the journal web site.

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The Guest Editors

Aniello Castiglione [castiglione@ieee.org](mailto:castiglione@ieee.org)
Kangbin Yim [yim@sch.ac.kr](mailto:yim@sch.ac.kr)
Ilsun You [isyou@bible.ac.kr](mailto:isyou@bible.ac.kr)