

Special issue on Bio-inspired Learning and Intelligent Systems for Security (BLISS-07)

Sue Ellen Haupt · Adrian Stoica · Wei Yan ·
Daniel Howard

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This special issue is based on the 2007 ECSIS Symposium on Bio-inspired Learning and Intelligent Systems for Security (BLISS-07) that was held in Edinburgh, Scotland, UK. That successful symposium emphasized reliable, versatile, and intelligent systems employed by a broad range of security applications. The goal was to integrate developers of intelligent systems with those who use them in security applications, including project managers, system integrators, and end users. As here used *intelligent systems* denote those artificial computational systems that operate in part or fully autonomously and that display behavior that if it were to be observed in animals, would normally become associated with intelligence of one sort or another. Systems with different degrees of autonomy of operation benefit greatly from incorporating aspects and mechanisms that are found in a broad range of biological systems, from survivability and adaptation of the simple living structures to learning, creativity, cognition and various forms of intelligence that are normally associated with humans. These features are often incorporated into

algorithms by mimicking the biological processes that provide the inspiration. Such intelligent systems have been applied to a wealth of practical problems, including those in security. Examples of such applications discussed at the symposium include the detection and prevention of cyber-crimes and identity theft, internet security, security of financial systems, security of public transportation systems, emergency response systems, combining space-based systems with geographical information systems, etc.

A subset of selected papers presented at BLISS-07 have been chosen for this special issue of *Journal of Soft Computing*. These papers deal with a broad range of applications relevant to security including Voice over Internet Protocol (VOIP), identifying faces, image analysis, determining the source of an unknown airborne contaminant release, encryption for communication, among others. Two additional papers were contributed from a similar special issue being edited by Dr. Daniel Howard. All papers contained herein have relevance for security in either the civilian or defense arenas.

We thank the authors who have all taken considerable effort to expound on their work for permanent archival in this journal. We similarly thank the reviewers who have facilitated this process, enhancing the quality of this special issue. We especially thank the editors of *Journal of Soft Computing*, particularly Brunella Gerla, for patience as we worked to make this special issue a reality. We hope the reader will capture a piece of the excitement and collegiality present in Edinburgh for the BLISS-07 conference as preserved in these papers.

S. E. Haupt (✉)
Applied Research Laboratory,
The Pennsylvania State University,
State College, PA, USA
e-mail: seh19@psu.edu

A. Stoica
NASA Jet Propulsion Laboratory,
Pasadena, CA, USA

W. Yan
Department of Computer Science,
University College, London, London, UK

D. Howard
Howard Science Limited, Malvern,
Worcestershire, UK