

# **Advances in Intelligent Systems and Computing**

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## **Series editor**

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The series “Advances in Intelligent Systems and Computing” contains publications on theory, applications, and design methods of Intelligent Systems and Intelligent Computing. Virtually all disciplines such as engineering, natural sciences, computer and information science, ICT, economics, business, e-commerce, environment, healthcare, life science are covered. The list of topics spans all the areas of modern intelligent systems and computing such as: computational intelligence, soft computing including neural networks, fuzzy systems, evolutionary computing and the fusion of these paradigms, social intelligence, ambient intelligence, computational neuroscience, artificial life, virtual worlds and society, cognitive science and systems, Perception and Vision, DNA and immune based systems, self-organizing and adaptive systems, e-Learning and teaching, human-centered and human-centric computing, recommender systems, intelligent control, robotics and mechatronics including human-machine teaming, knowledge-based paradigms, learning paradigms, machine ethics, intelligent data analysis, knowledge management, intelligent agents, intelligent decision making and support, intelligent network security, trust management, interactive entertainment, Web intelligence and multimedia.

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Mostafa Ezziyyani  
Editor

# Advanced Intelligent Systems for Sustainable Development (AI2SD'2018)

Vol 2: Advanced Intelligent Systems Applied  
to Energy

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# Preface



## Overview

The purpose of this volume is to honour myself and all colleagues around the world that we have been able to collaborate closely for extensive research contributions which have enriched the field of Applied Computer Science. Applied Computer Science presents a appropriate research approach for developing a high-level skill that will encourage various researchers with relevant topics from a variety of disciplines, encourage their natural creativity, and prepare them for independent research projects. We think this volume is a testament to the benefits and future possibilities of this kind of collaboration, the framework for which has been put in place.

## About the Editor

Prof. Dr. **Mostafa Ezziyyani**, IEEE and ASTF Member, received the “Licence en Informatique” degree, the “Diplôme de Cycle Supérieur en Informatique” degree and the PhD “Doctorat (1)” degree in Information System Engineering, respectively, in 1994, 1996 and 1999, from Mohammed V University in Rabat, Morocco. Also, he received the second PhD degree “Doctorat (2)” in 2006, from Abdelmalek Essaadi University in Distributed Systems and Web Technologies. In 2008, he received a Researcher Professor **Ability Grade. In 2015, he receives a PES grade—the highest degree at Morocco University.** Now he is a Professor of Computer Engineering and Information System in Faculty of Science and Technologies of Abdelmalek Essaadi University since 1996.

His research activities focus on the modelling databases and integration of heterogeneous and distributed systems (with the various developments to the big data, data sciences, data analytics, system decision support, knowledge management, object DB, active DB, multi-system agents, distributed systems and mediation). This research is at the crossroads of databases, artificial intelligence, software engineering and programming.

Professor at Computer Science Department, Member MA laboratory and responsible of the research direction Information Systems and Technologies, he formed a research team that works around this theme and more particularly in the area of integration of heterogeneous systems and decision support systems using WSN as technology for communication.

He received the first WSIS prize 2018 for the Category C7: ICT applications: E-environment, First prize: MtG—ICC in the regional contest IEEE - London UK Project: “World Talk”, The qualification to the final (Teachers-Researchers Category): Business Plan Challenger 2015, EVARECH UAE Morocco. Project: «Lavabo Intégré avec Robinet à Circuit Intelligent pour la préservation de l’eau», First prize: Intel Business, Challenge Middle East and North Africa—IBC-MENA. Project: «Système Intelligent Préventif Pour le Contrôle et le Suivre en temps réel des Plantes Médicinale En cours de Croissance (PCS: Plants Control System)», Best Paper: International Conference on Software Engineering and New Technologies ICSENT’2012, Hammamat-Tunis. Paper: «Disaster Emergency System Application Case Study: Flood Disaster».

He has authored three patents: (1) device and learning process of orchestra conducting (e-Orchestra), (2) built-in washbasin with intelligent circuit tap for water preservation. (LIRCI) (3) Device and method for assisting the driving of vehicles for individuals with hearing loss.

He is the editor and coordinator of several projects with Ministry of Higher Education and Scientific Research and others as international project; he has been involved in several collaborative research projects in the context of ERANETMED3/PRIMA/H2020/FP7 framework programmes including project management activities in the topic modelling of distributed information systems reseed to environment, Health, energy and agriculture. The first project aims to

propose an adaptive system for flood evacuation. This system gives the best decisions to be taken in this emergency situation to minimize damages. The second project aims to develop a research dynamic process of the itinerary in an events graph for blind and partially sighted users. Moreover, he has been the principal investigator and the project manager for several research projects dealing with several topics concerned with his research interests mentioned above.

He was an invited professor for several countries in the world (France, Spain, Belgium, Holland, USA and Tunisia). He is member of USA-J1 programme for TCI Morocco Delegation in 2007. He creates strong collaborations with research centres in databases and telecommunications for students' exchange: LIP6, Valencia, Poitiers, Boston, Houston, China.

He is the author of more than 100 papers which appeared in refereed specialized journals and symposia. He was also the editor of the book "New Trends in Biomedical Engineering", AEU Publications, 2004. He was a member of the Organizing and the Scientific Committees of several symposia and conferences dealing with topics related to computer sciences, distributed databases and web technology. He has been actively involved in the research community by serving as reviewer for technical, and as an organizer/co-organizer of numerous international and national conferences and workshops. In addition, he served as a programme committee member for international conferences and workshops.

He was responsible for the formation cycle "Maîtrise de Génie Informatique" in the Faculty of Sciences and Technologies in Tangier since 2006. He is responsible too and coordinator of Tow Master "DCESS - Systèmes Informatique pour Management des Entreprises" and "DCESS - Systèmes Informatique pour Management des Enterprises". He is the coordinator of the computer science modules and responsible for the graduation projects and external relations of the Engineers Cycle "Statistique et Informatique Décisionnelle" in Mathematics Department of the Faculty of Sciences and Technologies in Tangier since 2007. He participates also in the Telecommunications Systems DESA/Masters, "Bio-Informatique" Masters and "Qualité des logiciels" Masters in the Faculty of Science in Tetuan since 2002.

He is also the founder and the current chair of the blinds and partially sighted people association. His activity interests focus mainly on the software to help the blinds and partially sighted people to use the ICT, specifically in Arabic countries. He is the founder of the private centre of training and education in advanced technologies AC-ETAT, in Tangier since 2000.

Mostafa Ezziyyani

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