

# Preface

Dear Readers,

We introduce to you a series of carefully selected papers presented during the 9th KES International Conference on Intelligent Interactive Multimedia Systems and Services (IIMSS-16).

At a time when computers are more widespread than ever and computer users range from highly qualified scientists to non-computer expert professionals, Intelligent Interactive Systems are becoming a necessity in modern computer systems. The solution of “one-fits-all” is no longer applicable to wide ranges of users of various backgrounds and needs. Therefore, one important goal of many intelligent interactive systems is dynamic personalization and adaptivity to users. Multimedia Systems refer to the coordinated storage, processing, transmission, and retrieval of multiple forms of information, such as audio, image, video, animation, graphics, and text. The growth rate of multimedia services has become explosive, as technological progress matches consumer needs for content.

The IIMSS-16 conference took place as part of the Smart Digital Futures 2016 multi-theme conference, which groups AMSTA-16, IDT-16, InMed-16, and SEEL-16 with IIMSS-16 in one venue. It was a forum for researchers and scientists to share work and experiences on intelligent interactive systems and on multimedia systems and services. It included a general track and nine invited sessions.

The general track (Chaps. “[Analysis of Similarity Measurements in CBIR Using Clustered Tamura Features for Biomedical Images](#)”–“[How to Manage Keys and Reconfiguration in WSNs Exploiting SRAM Based PUFs](#)”) focused on intelligent image or video storage, retrieval, transmission, and analysis. The invited session “Intelligent Video Processing and Transmission Systems” (Chaps. “[Fast Salient Object Detection in Non-stationary Video Sequences Based on Spatial Saliency Maps](#)”–“[Development Prospects of the Visual Data Compression Technologies and Advantages of New Approaches](#)”) specifically focused on functionalities and architectures of systems for video processing and transmission. The invited session “Innovative Information Services for Advanced Knowledge Activity” (Chaps. “[A Near-far Resistant Preambleless Blind Receiver with Eigenbeams Applicable to](#)

Sensor Networks”–“Trends in Teaching/Learning Research Through Analysis of Conference Presentation Articles”) focused on novel functionalities for information services. The invited session “Autonomous System” (Chaps. “Motion Prediction for Ship-Based Autonomous Air Vehicle Operations”–“Active Suspension Investigation Using Physical Networks”) considered issues such as motion prediction, operating systems, and networks for what concerns autonomous systems. The invited session “Mobility Data Analysis and Mining” (Chaps. “Automatic Generation of Trajectory Data Warehouse Schemas”–“A Survey on Web Service Mining Using QoS and Recommendation Based on Multidimensional Approach”) focused on novel modelling and analysis approaches for mobility data. The invited session “Intelligent Computer Systems Enhancing Creativity” (Chaps. “Mapping and Pocketing Techniques for Laser Marking of 2D Shapes on 3D Curved Surfaces”–“Experience-driven Framework for Technologically-enhanced Environments: Key Challenges and Potential Solutions”) provided insight into the most recent efforts, challenges, and best practices across the fields of computer-aided creativity and innovation. The invited session “Internet of Things: Architecture, Technologies and Applications” (Chaps. “Touchless Disambiguation Techniques for Wearable Augmented Reality Systems”–“Opinions Analysis in Social Networks for Cultural Heritage Applications”) focused on IoT approaches, especially considering cultural heritage scenarios. The invited session “Interactive Cognitive Systems” (Chaps. “A Forward-Selection Algorithm for SVM-Based Question Classification in Cognitive Systems”–“A Model of a Social Chatbot”) focused on adaptive and human-like cognitive systems and on artificial intelligence systems and robotics. The invited session “Smart Environments and Information Systems” (Chaps. “An Experience of Engineering of MAS for Smart Environments: Extension of ASPECS”–“Soft Sensor Network For Environmental Monitoring”) discussed the requirements of the information systems supporting smart environments, as well as the methods and techniques that are currently being explored. Finally, the invited session “New Technologies and Virtual Reality in Health Systems” (Chaps. “The Use of Eye Tracking (ET) in Targeting Sports: A Review of the Studies on Quiet Eye (QE)”–“The Elapsed Time During a Virtual Reality Treatment for Stressful Procedures. A Pool Analysis on Breast Cancer Patients During Chemotherapy”) focused on advanced functionalities for VR-based applications in health care.

Our gratitude goes to many people who have greatly contributed to putting together a fine scientific programme and exciting social events for IIMSS 2016. We acknowledge the commitment and hard work of the programme chairs and the invited session organizers. They have kept the scientific programme in focus and made the discussions interesting and valuable. We recognize the excellent job done by the programme committee members and the extra reviewers. They evaluated all the papers on a very tight time schedule. We are grateful for their dedication and contributions. We could not have done it without them. More importantly, we thank the authors for submitting and trusting their work to the IIMSS conference.

We hope that readers will find in this book an interesting source of knowledge in fundamental and applied facets of intelligent interactive multimedia and, maybe, even some motivation for further research.

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