Guest editorial

Special issue on ubiquitous computing and Internet of People – models and applications

The rapid developments and emerging advances in computing technologies have paved way for the innovations in day-to-day activities of human lives to leverage the improved digital outcomes. More specifically, the current technological era is witnessing the increased adoption of virtual/cyberspace mostly in the form of Internet of People (IoP) architectures for the societal applications like smart cities, health care, education, business, transportation and so on. IoP envisions creating a pervasive and hyper-connected society for delivering diversified services to communicate with each other. The diversified computing paradigms in artificial intelligence (AI) like machine learning, deep learning and cognitive computing tends to deploy tremendous research advancements in the IoP domain. Wherein, the AI technologies also impose innovations in enhancing the computing and communication capacity of the IoP architectures. This special issue explores the AI-driven IoP and other computing architectures to deploy new technological tools to enhance the interconnectivity among people and benefit both society and workplace environments.

This special issue addresses research in the ubiquitous computing paradigm. As guest editors, we have selected seven contributed papers that reflect the state of the art in ubiquitous computing research. These seven contributions were selected from among different submissions that were judged within the scope of this issue as well as the scope of the journal. These submissions were reviewed by both external reviewers and the journal editors. Papers subject to difficult editorial decisions have received additional scrutiny by the editors. Nevertheless, we, the editors are hopeful that the regular and timely review process of *Emerald-International Journal of Pervasive Computing and Communications* (IJPCC) was a constructive process for all submitting authors. The contributed papers are described below as well.

The primary objective of the first paper entitled "Optimized scheduling techniques focused on powerful heuristics leveraging cloud services soft computing" is to ensure an efficient and complex distribution of resources in cloud-based computing. As a result, this research contribution has successfully proposed an algorithm to minimize resource response time and overall workflow tasks and also improve load balancing by modifying the algorithm to support load balancing.

The second paper titled "Intelligent ubiquitous computing model for energy optimization of cloud IOTs in sensor networks" aims to improve the network quality and improve the data accuracy rate during the network transmission process by using the developed ubiquitous deep learning computational model. Finally, this research study helps in reducing energy consumption and increases the network lifetime of the cloud IOT-based sensor network models. This approach leverages a better transmission rate with minimized energy consumption and reduces the delay in transmission.

The third research work titled "Design and implementation of pervasive DA based FIR filter and feeder register based multiplier for software defined radio networks" proposed an efficient zero product and feeder register-based multiplier to optimize power and area in Digital Signal Processing applications such as finite impulse response (FIR) filter, infinite impulse response and wavelet transformation functions.

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The fourth paper titled "An enhanced network intrusion detection system for malicious crawler detection and security event correlations in ubiquitous banking infrastructure" has developed an efficient approach for malicious crawler detection and correlated the security alerts. Also, this research study has compared various machine learning strategies including Bayesian network, support sector machine and decision tree. Moreover, this research contribution has also enhanced the taxonomy for various domains.

The fifth paper entitled "Task scheduling and resource allocation of seasonal requests of users in cloud using NMKA and CM-GA techniques" proposes an energy-efficient task scheduling and resource allocation in cloud data centers (CDC) and paves the way for the development of effective CDC. Further, the investigational outcomes exhibit that the proposed study outruns other existing algorithms in respect to response time, execution time, clustering accuracy, precision and recall.

The sixth research contribution attained by Spurious Transmission-based Enhanced Packet Reordering Method (ST-EPRM) titled as "Enhanced packet reordering procedure to improve TCP communication" has proposed a modified support vector machine algorithm, which is greatly used for variation-based spurious transmission.

Finally, the seventh paper titled "Multi-viewpoints visual models for efficient modelling and analysis of Twitter based healthcare services" has proposed MVP-based VM by using traditional topic models with visual techniques to find cluster tendency, partitioning for cluster validity to propose health-care recommendations based on tweets. Furthermore, this research study has demonstrated the effectiveness of proposed methods on different real-time Twitter health-care data sets.

As a conclusion, in the coming years, we expect the field to further explore the convergence of ubiquitous computing practices and smart city applications continue to push the interconnectivity among people to support the exponential growth in both society and working environments.

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Robert Bestak obtained a PhD degree in Computer Science from ENST Paris, France (2003) and MSc degree in Telecommunications from Czech Technical University in Prague, CTU (1999). Since 2004, he has been an Assistant Professor at the Department of Telecommunication Engineering, Faculty of Electrical Engineering, and CTU. He participated in several national, EU and third-party research projects. He is the Czech representative in the IFIP TC6 organization. He annually serves as Steering and Technical Program Committee member of more than 20 international conferences (Networking, WMNC, NGMAST, etc.), and he is a member of the editorial board of five international journals with impact factors. He also acts as a reviewer for many journals published by IEEE, Elsevier and Springer. He published one chapter in a book and more than 100 conference/journal papers. Additionally, he is a co-editor of five special issues in journals with an impact factor. His research interests include advanced robotics, 5G networks, computing and big data in mobile networks.

Klimis Ntalianis received his diploma and PhD degrees both from the Electrical and Computer Engineering Department of the National Technical University of Athens (NTUA) in 1998 and 2003, respectively. Between 2004 and 2006, he has written two Postdoctoral theses in the areas of multimedia protection and emotion analysis. From 1998 till 2009, he was a Senior Researcher and Projects Coordinator at the Image, Video and Multimedia Lab of NTUA. During this period, Dr Ntalianis has participated in the writing, submission and implementation of more than 20 R&D proposals in calls for proposals of the General Secretariat of Research and Technology (GSRT) of Greece (Frameworks: EPEAEK, PABE, EPET, PENED), the Research Promotion Foundation of Cyprus, Information Society S.A. and the European Union (Frameworks: ESPRIT, TMR, IST, Leonardo, FP6 and FP7). In parallel and from 2005 till 2011, he has worked as an adjunct lecturer at the University of Peloponnese, the Hellenic Naval Academy, the Hellenic Air Force and the Cyprus University of Technology. Except for his academic activities, Dr Ntalianis has also worked for the Institute of Communication and Computer Systems (NTUA), Algosystems S.A., Kleidarithmos Publications, Municipality of Egaleo and Informatics and Telematics Institute, Center for Research and Technology Hellas. Additionally, he has served as evaluator of the committee 48/2000 of ASEP for employing staff in the public sector (2000), he was the main writer of horizontal research studies for GSRT's Call 65 (55 MEuro) of the Information Society Programme (2003–2005 and 2008), he has evaluated the competition of The Hellenic Literary and Historical Archive (500 KEuro, 2005) and he has carried out 25 expert consultancies on behalf of Information Society S.A., for 25 proposals of 19 organizations, in the framework of Call 65. He has also worked as an expert evaluator for the Research Promotion Foundation of Cyprus in the framework of the programme "Research for Companies - Product" (February–March 2010) and for the GSRT in the framework of the Action "Collaboration" (March 2010). He was also a regular member of the No. 1 Evaluation Committee of the Ministry of Education for evaluating proposals in the framework of the call —Support of Small and Medium Companies for Research and Development Activities (11 MEuro, 2010–2012). Dr Ntalianis is an active reviewer of more than ten International Journals of IEEE, Springer and Elsevier. Additionally, he is an active reviewer and/or participates in the organizing committees of more than ten International Conferences of IEEE, ACM, etc. From April 2015, he is an Associate Professor at the West Attica University (Department of Marketing, Specialization: "Multimedia over the Internet"). Dr Ntalianis has participated as editor in the proceedings of three International Conferences, he has translated and was responsible for the scientific redaction of two Computer Science books (Kleidarithmos Publications), and he has written more than 150 scientific papers and deliverables and has received more than 650 citations. His main research interests include multimedia processing, social media analysis, crowdsourcing and data mining.

Ram Palanisamy is a Full Professor in the Department of Information systems, Gerald Schwartz School of Business, St. Francis Xavier University, Nova Scotia. Dr Ram has 30 years of teaching, research and consultancy in Information Systems Management. He joined StFX University in October 1999. Dr Ram has successfully completed many Honors Thesis (INFO/BSAD 498) Supervision. He has served as the chair and advisory committee member for many International Conferences. Dr Ram's primary teaching areas include Information Systems, E-Commerce, Database

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