GUEST EDITORIAL PREFACE

Special Issue on Knowledge Intensive Systems and Services

Manuel Mazzara, Polytechnic of Milan, Milan, Italy

Álvaro Rocha, Universidade Europeia & LIACC, Universidade do Porto, Porto, Portugal

"Knowledge-intensive Systems and Services" is a broad research topic focusing on models, tools, methods, technologies and ultimately systems and services for knowledge representation, transformation, processing and, most importantly, interaction between humans and machines. The research community is currently facing several challenges in formalizing knowledge in such a way to be, at the same time, comprehensible by humans and traceable by machines in order to automatically solve complex and symbolic problems that human naturally and spontaneously handle through cognitive processing.

Being the theme of prominent importance and widely discussed over several interdisciplinary scientific communities, we felt that organizing a special issue of the "International Journal of Systems and Service-Oriented Engineering" on the topic would have been a good occasion to increase our knowledge and to push the state-of-the art beyond its current status making the results available to a wide range of people. We therefore selected the best papers on the topic from the "2013 World Conference on Information Systems and Technologies (WorldCIST'13)" and then opened the call to further submissions too.

This issue includes four relevant submissions from authors with different backgrounds:

Yassine Drias and Habiba Drias - Social Networks Discovery based on Information Retrieval Technologies and Bees Swarm Optimization: Application to DBLP;

Sze-Sing Lam and Samuel Ping-Man Choi - Multidimensional Ontology-Based Information Retrieval for Academic Counselling;

Amine Chemchem, Habiba Drias and Youcef Djenouri - Multilevel Clustering of Induction Rules: Application on Scalable Cognitive Agent;

Filipe Portela, Jorge Aguiar, Manuel Filipe Santos, Álvaro Silva, António Abelha, José Machado and Fernando Rua Martins - Assessment of Technology acceptance in Intensive Care Units.

The heterogeneity of these approaches adds further value to the publication. In particular, Yassine Drias and Habiba Drias apply concepts of bees swarms algorithms to DBLP, which is

one of the most well know computer science bibliography website. The replication of "natural behaviors" in technology is certainly not a new trend, but for what concerns software and knowledge management it is, to some extent, still an emerging area.

Sze-Sing Lam and Samuel Ping-Man Choi develop a system providing 24x7 online academic counseling services through the use of ontology-based information retrieval algorithms. In recent years, ontologies have been applied to several application domains in the context of knowledge management and beyond. This is another excellent example of this increasing trend.

Amine Chemchem, Habiba Drias and Youcef Djenouri explore new data mining techniques and induction rules in order to present a new algorithm for clustering inference rules in knowledge mining. The new algorithm is then used in the development of a cognitive agent able to computationally exhibit artificially intelligent behaviors.

Filipe Portela, Jorge Aguiar, Manuel Filipe Santos, Álvaro Silva, António Abelha, José Machado and Fernando Rua Martins assessed instead, through a questionnaire-based approach, the acceptance of INTCare, i.e. a Pervasive Intelligent Decision Support System (PIDSS) deployed in the Intensive Care Unit of Centro Hospitalar do Porto, in Portugal.

Finally, we want to thanks all the reviewers who gave their support to make this publication possible: Mario Bravetti, Yi Cai, Samuel Choi, Angelo Diiorio, Koji Hasebe, Kai Wing Ho, Nicola Mezzetti, Fabrizio Montesi, Mirna Ariadna Muñoz Mata, Gonçalo Paiva Dias and Paulo Teixeira.

Enjoy then your excursion through the land of "Knowledge-intensive Systems and Services"!

Manuel Mazzara
Associate Editor
Álvaro Rocha
Guest Editor
IJSSOE

Manuel Mazzara demonstrated high flexibility, tenacity and adaptability to several contexts with dedication to research and a passion for teamwork, tutoring and coaching. In 2000 he was a system administrator at CS Labs in Bologna and in 2003 he worked as SW Engineer at MS in Redmond where he developed his technical skills for then building a more theoretical background with his PhD in Bologna. During this period, he also worked as a teacher and consultant (banking and private business). In 2006 he was an assistant professor in Software Engineering at the University of Bolzano (Component-based Development and Software Reliability). In 2007 he worked as a Project Manager at the Technical University of Vienna (Semantic Web and Discovery). From 2008 to 2012 Manuel encountered the most challenging and exciting situations of his life working with Newcastle University on the DEPLOY project. This project involved several partners Europe-wide with 4 of them coming from the most varied industrial scenarios: Bosch, Siemens, SAP and Space Finland. The objective was deploying software engineering techniques into the industrial process to guarantee stronger products reliability. In 2012 Manuel also served as a Computer Scientist at UNU-IIST in Macao while still being with Newcastle as a Visiting Researcher. Manuel worked on the automatization of the immunization process for third world countries and on e-health and sustainability projects related to the UN "Agenda 21". This experience was fundamental to grow form a technical, managerial and human point of view. Manuel is currently based at Polytechnic of Milan as a teaching and research fellow on remote assistance and telemedicine domotics tools. Manuel is a versatile individual who does not spare himself when running the extra mile is needed. His technical and interpersonal skills are demonstrated by the long list of collaborations and by the specific recommendations of his colleagues, business partners and students.

Álvaro Rocha holds a PhD in Management of Information Systems from University of Minho, Portugal. He is an Associate Professor at Universidade Europeia, Portugal, and an Invited Professor at Universidad de Santiago Compostela, Spain. He is teaching and researching subjects on Information Systems Planning, Systems Analysis, Software Engineering and Databases. He is an integrated researcher at LIACC - Laboratory of Artificial Intelligence and Computer Science and a collaborator researcher at CINTESIS – Center for Research in Health Technologies and Information Systems, both of the University of Porto. He is a co-founder and the President of AISTI (Iberian Association for Information Systems and Technologies). And he is a chair for the WorldCIST (The World Conference on Information Systems and Technologies).