

EDITORIAL

The IADIS International Journal on Computer Science and Information Systems (IJCSIS) is a peer-reviewed scientific journal published exclusively in an electronic form. Its mission is to publish original contributions pertaining to the topics of Applied Computer Science, Information Systems and their Applications, to disseminate knowledge amongst its readers and to be a reference publication. The IADIS IJCSIS publishes original research papers and review papers, as well as auxiliary material such as: short ongoing research papers, case studies, conference reports, management reports, book reviews and commentaries.

This volume (ISSN: 1646-3692) combines 8 selected original papers that bring together researchers covering the wide spectrum of Computer Science and Information Systems and their applications. The authors' contributions embrace important research topics and intend to provide a current depiction of the research in the field while opening way to future research work.

The first paper in this issue by Sulieman Bani-Ahmad (Al-Balqa Applied University, Jordan), entitled ON CITATION-BEHAVIOR-GUIDED SEARCH-PHRASE SUGGESTERS FOR ONLINE DIGITAL LIBRARIES introduces a *content-driven Search-Keyword-Suggester* to improve keyword-based search processes in digital libraries. The author states that the suggestion of search expressions minimises incorrectly-typed terms and provides a more incisive search. The validation study of the *content-driven Search-Keyword-Suggester* shows that it has the potential to have several advantages over its competitors.

The second paper by Jamshed Mistry (Suffolk University, USA), Diane Strong and Sharon Johnson (Worcester Polytechnic Institute, USA) THE USE OF ERP-BASED EXERCISES IN MANAGEMENT CURRICULA suggests the application of a model for the provision of integrative decision-making to undergraduate management curricula by employing a ERP system. The authors also propose an Oracle-based module for budget decision-making to be used in a management accounting course and assess its value in terms of the central precepts of teaching. Their findings provide a relevant contribution to the management education field literature.

The third contribution by Eric Simon and Kilian Stoffel (Université de Neuchâtel, Switzerland) TOWARDS BRIDGING THE GAP BETWEEN INTUITIVE AND FORMAL REPRESENTATIONS OF SYSTEMS LIFE CYCLE PROCESSES proposes a model to reduce the existing gap between the informal methodologies for systems development and the mathematical formality required for systems' validation. The model here presented is based on finite state machines and their transformation into Petri nets. It is argued that this model's effectiveness is justified by the fact that it allows non-expert users to represent their actions and central characteristics using simple automata and by the application of a systems' thinking method to the resolution of problems.

The fourth paper by Ismael Ávila, Luiz Rolim and Giovanni Holanda (CPqD R&D Center in Telecommunications, Brazil), entitled ALTERNATIVE NEIGHBORHOOD CONFIGURATIONS IN AN ABMS MODEL TO ESTIMATE THE ADOPTION OF TELECENTERS IN BRAZIL discusses two alternative configurations of neighborhood for social networks creation, in the context of an agent-based modeling that evaluates the acceptance of telecentres by potential users in Brazil. The two alternative configurations are based on Moore's cellular automaton and random relations, respectively. The final model is expected to assist in the relocation of resources to obtain optimised results.

The fifth paper by Thierry Le Pors, Thomas Devogele (Naval Academy Research Institute, France) and Christine Chauvin (University of South Brittany – CRPCC/LESTIC, France) CONCEPTION OF MULTI AGENT SYSTEM INTEGRATING NATURALISTIC DECISION ROLES: APPLICATION TO MARITIME TRAFFIC explores the simulation of specialists' naturalistic decision making in difficult circumstances. The authors propose a cognitive model which combines Natural Decision Making theories with the objective of generating realistic simulated decisions. The validation study of the model involved its application to the case of collision avoidance in maritime traffic.

The sixth contribution Thomas Vincent (Equipe MAIA LORIA UHP NANCY, France) and Akplogan Mahuna (INRA, France) USING "SOCIAL ACTIONS" AND RL-ALGORITHMS TO BUILD POLICIES IN DEC-POMDP explores cooperative multi-agent systems whose efficiency is measured by a global utility function. The authors present alternatives to control these systems while considering local and practical limitations. They suggest three decentralized reinforcement learning algorithms based on social actions and present the results obtained.

The seventh paper by Dominic Heutelbeck, Matthias Hemmje (University of Hagen, Germany) and Christina Sergel (Serkom, Germany) entitled VoroDSPT: A VORONOI BASED OVERLAY FOR SPATIAL OBJECTS focuses on the issue of spatial objects' efficient dynamic and distributed storage and search in a P2P overlay which is based on the geometric structure Voronoi Diagram. The authors present VoroDSPT, a new DSPT implementation and describe its peer-to-peer design. They also provide some preliminary results to demonstrate this system's performance.

The final paper by Xiaoguang Ma, Ming Yu and Bing W. Kwan (Florida State University, USA), A STUDIES ON THE COMPUTATIONAL SCALE OF A DISTRIBUTED RCA ALGORITHM analyses a classical Radio Channel Allocation for IEEE 802.11 based wireless networks, through the employment of analytical and statistical analysis with regard to the computational scale of the method. The authors compare the distributed heuristic algorithm (DHA) with the centralized heuristic algorithm (CHA) and conclude that its performance is as good as or even better in some scenarios.

These papers illustrate the different facets of research done on Applied Computer Science, Information Systems and their Applications and contribute with the work they've developed to the enrichment of this field. The review of the relevant literature contributes to the theoretical grounding of these areas and the innovative empirical research on different technologies creates opportunity for the development of innovative findings.

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