Letter from the Editor-in-Chief

The Journal of the Brazilian Computer Society is the main Computer Science publication in the country, and the only one with international status: currently Qualis International B. Its current circulation amounts to 2.300 copies, mailed to members and institutions all over the world. The Brazilian Computer Society is the third largest in the world, with over 7.000 members as of today. However, JBCS is rarely cited by its own community of authors and readers, although there is no apparent reason for it given the quality of the publication. For that reason, the straightforward way to revert this dispiriting situation is to start citing JBCS' articles regularly.

The JBCS has recently been re-accepted at the SciELO Digital Library. That will increase JBCS' visibility to the international readership also because the SciELO Digital Library is automatically indexed by Google Scholar. The next step is to have it indexed by services such as Scopus and ISI, but that depends on showing that JBCS has a high enough citation index. That is the responsibility of the community. This Letter from the Editor-in-Chief is a call for action, better still, a Call for Citation.

The first paper in this issue is entitled "Regularized Implicit Surface Reconstruction from Points and Normals". Mederos, Lage, Arouca, Petronetto, Velho, Lewiner and Lopes consider the problem of surface reconstruction of a geometric object from a finite set of sample points with normals. Their contribution is to present a new scheme for implicit surface reconstruction. Similarly to the multilevel partition of unity method they hierarchically divide the domain obtaining local approximation for the object on each part, and then patch all together obtaining a global description of the object. Their new scheme uses ridge regression and weighted gradient one fitting techniques to get better stability on local approximations. The method behaves rea-sonably on sparse set of points and data with holes as those which comes from 3D scanning of real objects.

The second paper has the title "Model-Based Evolution of Collaborative Agent-Based Systems". Bohner, Gračanin, Hinchey and Eltoweissy present their approach and demonstrate how Model-Driven Architecture is effective for producing sophisticated agent-based systems. A key challenge was found in designing a flexible meta-model framework that would accommodate top-down domain information and bottom-up platform specific constructs, as well as the transformations and mappings between them. They employed a General Domain Application Model as the platform-independent model layer and General Cougaar Application Model layer as the platform specific model respectively.

The third paper deals with Transformation Based Learning which is a Machine Learning technique frequently used in some Natural Language Processing tasks. Its title is "Evolutionary TBL Template Generation". Milidiú, Duarte and Santos propose the use of TBL rule templates to identify error-correcting patterns. A critical requirement in TBL is the availability of a problem domain expert to build these rule templates. In this work, they propose an evolutionary approach based on Genetic Algorithms to automatically implement the template generation process. Their approach provides template sets with a mean loss of performance of 0.5% when compared to human built templates.

The fourth paper has the title "Formal Specification and Verification of Real-Time Systems using Graph Grammars". Michelon, Costa and Ribeiro state that the importance of real-time systems has enormously increased in the last decade because of areas that include railroad systems,

intelligent vehicle highway systems, avionics, multimedia and telephony. To assure that such systems are correct, additionally to prove that they provide the required functionality, time constraints must be satisfied. In this paper they propose a formal approach to specify and analyze real-time systems based on Object-Based Graph Grammars, a formal description technique suitable for the specification of asynchronous distributed systems. They extend it to enable explicit modeling of time constraints, and define the semantics of the specifications via transition systems. Finally, they translate it to Timed Automata, a formal notation that is widespread in the area of real-time systems modeling and allows the automatic verification of properties.

The fifth paper is entitled "Localization and Mapping in Urban Environments Using Mobile Robots". Wolf and Sukhatme observed that most mapping applications demand some level of knowledge about the environment to be accomplished and that in the literature most of them are designed to perform in indoor environments. This paper addresses the problems of localization and mapping in large urban hence, outdoor environments. Due to their complex-ity, lack of structure and dimensions, urban environments presents several difficulties for the mapping task. Their experimental results include maps of several city blocks and a performance analysis of the algorithms proposed.

The last paper by Maffort and Valente is entitled "Modularizing Communication Concerns Using Aspects". Software engineers often rely on communication middleware platforms to design and implement distributed systems. However, middleware functionality is usually invasive, pervasive and tangled with business-specific concerns. In this paper, the authors describe an aspect-oriented distributed programming system that encapsulates middleware services provided by Java RMI and Java IDL. The proposed system, called DAJ, handles the basic service provided by such object-oriented middleware platforms. The paper documents their experience in using DAJ to modularize middleware concerns from three legacy distributed systems.

Finally, I would like to thank all reviewers for their valuable evaluation of the papers.

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