

Presentation

Letter from the Editor

The first three articles of this issue are extended versions of selected papers from ENIA 2009 (*Encontro Nacional de Inteligência Artificial*). The other two papers were chosen from the normal process of submission to Scientia. Our special thanks to Aline Villavicencio and Heloisa Camargo, chairs of ENIA 2009, for indicating and inviting the authors of the best papers to submit an extended version of their works to this issue. All the papers, even those selected from ENIA, were evaluated again in a peer review process in order to identify if the submitted versions have new original contributions.

The first paper is entitled *Particle Swarm Optimization with inertia non-monotonic control*. Tiago Silveira, Humberto Oliveira, Luiz Silva and Ricardo Salgado present a mechanism to reduce the stagnation in local minima for the optimization process of nonlinear functions, using for that the meta-heuristic Particle Swarm Optimization. According to the authors, this mechanism is a non-monotonic way to control the particle inertia, which is one of the factors responsible for movement during the optimization process.

The second paper has the English title *Control of the population diversity in genetic algorithms applied to the protein structure prediction problem*. In this work, Vinicius Tragante do Ó and Renato Tinós investigate the effect of increasing the diversity of the population in genetic algorithms on the protein structure prediction problem by using Hypermutation and Random Immigrants, two traditional population diversity control schemes. The work is especially interested in the structure prediction of the proteins Crambin (PDB 1CRN), Met-Enkephalin (PDB 1PLW), and DNA-Ligand (PDB 1ENH).

The third paper, by Gustavo Pessin and Fernando Osório, is entitled *Particle Swarm Optimization applied to robotic squad coordination*. The authors describe the modeling, implementation and evaluation of the efficiency of Particle Swarm Optimization algorithms when applied to robotic group formation and coordination.

The paper entitled *Continuum software infrastructure for ubiquitous computing: A service-based approach* and authored by Cristiano Costa, Felipe Kellermann, Rodolfo Antunes, Jorge Barbosa, Adenauer Yamin and Cláudio Geyer presents the service-based architecture proposed for Continuum. Continuum is an infrastructure, proposed by the same researchers, that is based on service-oriented architecture, making use of framework and middleware, and employing a redefinition of follow-me semantics.

The last paper has the title *MobSIP: A SIP extension to support application layer handover in real-time multimedia communications with mobility requirements*. Daniel Costa and Sergio Vianna Fialho propose a novel Session Initiation Protocol (SIP) extension, adding direct support to handover procedures in SIP clients in order to support real-time multimedia communications with mobility requirements on Internet backbones.

In this issue, we have the contribution of some *ad-hoc* reviewers:

Aurora Pozo – UFPR
Calebe Bianchini – Mackenzie
João Valiati – Unisinos
Jorge Barbosa – Unisinos
Katti Faceli – UFSCAR
Marcia Pasin – UFSM
Marcos Cintra – USP
Paulo Almeida – CEFET-MG
Ricardo Gudwin – UNICAMP

We would like to thank all of them for their valuable contribution!

With this issue, I have completed my period of 3 years as Scientia editor in chief. From March, 2010 my colleague João Valiati will be in charge of this task. I would like once more to thank all the members of Scientia Program Committee for their participation in the evaluations of the papers and their contribution in the decisions related to Scientia. Their work is very important to the quality of our journal! And, for João, our new editor in chief, my special welcome!

Patricia Jaques

Editor in chief
PIPCA/UNISINOS

