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Special Issue on the Italian Conference on Computational Logic: CILC 2011

Preface

This special issue of Fundamenta Informaticae contains the revised, extended versions of selected papers presented at the Italian Conference on Computational Logic (Convegno Italiano di Logica Computazionale, CILC 2011) which was held at the University "G. d'Annunzio" of Chieti-Pescara, Italy.

This conference was the twenty-sixth edition of the annual meeting organized by the Italian Association for Logic Programming (GULP, Gruppo Ricercatori e Utenti di Logic Programming), which, since its first edition in 1986, constitutes the main Italian forum for researchers, users, and developers to discuss work and exchange ideas on Computational Logic and related areas, such as Artificial Intelligence and Deductive Databases. All these areas had a very significant growth over the last decades and nowadays they all play a crucial role in the fields of Information Processing and Computer Science.

The program of the CILC 2011 conference featured thirty papers (twenty-one which had a long presentation and nine which had a short presentation), two invited talks: (i) one by A. Omicini (University of Bologna) on: "Coordination Models and Technologies toward Self-Organising Systems", and (ii) one by F. Spoto (University of Verona) on: "Static Analysis of Java. Can we be logical?", and a tutorial by F. Riguzzi (University of Ferrara) on: "Probabilistic Logic Languages". The quality of the technical contributions and the number of participants (about fifty, most of whom were young researchers) confirm that the Italian Computational Logic community is very lively and active.

Some of the presented papers were selected and their authors were invited to submit an improved version for publication in this special issue. The papers accepted in this issue passed two rounds of careful reviews by qualified international referees, to whom we express our deep gratitude for their comments which helped the authors to improve the quality of their papers.

Here is a brief account of the topics studied in the accepted papers.

M. Alberti, M. Gavanelli, and E. Lamma describe an implementation of the SCIFF abductive system using Constraint Handling Rules.

S. Bistarelli and F. Santini extend Dung's argumentation framework with coalitions of arguments using soft constraint programming.

D. Campagna and A. Formisano present a framework for modeling and configuring products and their production processes.

D. Cantone and M. Nicolosi Asmundo introduce a multi-sorted stratified syllogistic and prove its satisfiability.

S. Costantini and A. Formisano extend Answer Set Programming with nested weight constraints.

G. D'Agostino and G. Lenzi show a reduction from the vectorial μ-calculus model checking problem over arbitrary graphs to S5 graphs whose accessibility relation is an equivalence.

F. Fioravanti, A. Pettorossi, M. Proietti, and V. Senni address the problem of controlling polyvariance during the specialization of constraint logic programs for verifying safety properties of infinite state systems.

F.A. Lisi and U. Straccia use inductive logic programming for the automated induction of inclusion axioms on fuzzy ontologies.

F. Riguzzi describes a probabilistic logic programming system for performing approximate inference using Monte Carlo techniques.

D. Solomakhin, E. Franconi, and A. Mosca propose a first-order deontic-alethic logic for the formalization of the Semantics of Business Vocabulary and Rules standard (SBVR).

N. Zhou and A. Dovier use Prolog with mode-directed tabling to solve a planning problem.

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