

Lecture Notes in Artificial Intelligence 5388

Edited by R. Goebel, J. Siekmann, and W. Wahlster

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Constraint Handling Rules

Current Research Topics

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Preface

The Constraint Handling Rules (CHR) language came to life more than 15 years ago. Since then, it has become a major declarative specification and implementation language for constraint-based algorithms and applications. In recent years, the five Workshops on Constraint Handling Rules have spurred the exchange of ideas within the CHR community, which has led to increased international collaboration, new theoretical results and optimized implementations.

The aim of this volume of *Lecture Notes in Artificial Intelligence* was to attract high-quality research papers on these recent advances in CHR. The 8 papers in this issue were selected from 11 submissions after careful reviewing and subsequent revisions. Each paper was reviewed by three reviewers. The accepted papers represent some of the research teams on CHR around the world. It is not by accident that the currently most active research group is featured here with three articles. We also would have liked to see contributions from other CHR teams, but space is limited and the reviewers took their job seriously.

After an introductory article that foreshadows an upcoming monograph on CHR, the accepted papers span a range of current research topics in the CHR community. It goes from extending the CHR language with search facilities and the related adaptive framework, and from generating rules from specifications of constraint solvers to implementing abductive probabilistic reasoning. They cover the theory that is a compositional semantics for CHR and finally describe efficient implementations of CHR in traditional mainstream programming languages and compiler optimizations in the context of the refined semantics of CHR.

We would like to thank the authors of submitted papers and the many reviewers for their contribution in making this collection of research papers possible.

October 2008

Tom Schrijvers
Thom Frühwirth

Organization

Referees

S. Abdennadher
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J. Robin

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T. Schrijvers
J. Sneyers
M. Sulzmann
P. Tacchella
P. Van Weert
A. Wolf
P. Wuille

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