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WP5 Report: Model Applications and Proofs-of-Concept

Introduction

After a long period of theoretical research on non-monotonic logic programming, in the recent years several implemented systems have become available, including DLV [1, 2], Smodels [3, 4], NoMoRe [5, 6], ASSAT [7, 8], and Cmodels. These systems provide a computational backbone for the Answer Set Programming (ASP) paradigm [9, 20, 192, 194], a promising approach to declarative problem solving which uses concepts from knowledge representation [10].

The objectives of the workpackage WP5 are

- to investigate the use of Answer Set Programming (ASP) in various applications from a global perspective;
- to explore the integration of ASP techniques and tools in problem solving; and
- to provide showcases and model scenarios in applications which demonstrate the usage of the ASP paradigm.

In this report, we try to categorize and survey promising application areas giving the focus onto the research which is carried out by members of the European Working Group on Answer Set Programming (WASP).

In addition, a selection of showcase-applications is available at the web under:
http://www.kr.tuwien.ac.at/projects/WASP/showcase.html.

Planning

During the last years, logic programming and answer set programming in particular have been widely accepted as a useful tool for solving classical planning problems by means of suitable transformations [11, 12]. The key issue making ASP an appealing core language for planning problems is indeed the non-monotonic formulation of frame axioms using negation as failure.

The system DLVK, developed at TUWIEN, is a sophisticated planning-frontend to the system DLV. Leone *et al.* [13] have shown some integrated encodings for conformant planning and simple forms of conditional planning, and later extended their work with respect to planning under uncertainty, incomplete information, and action costs, adopting useful concepts of Answer Set Programming such as weak constraints [14, 15, 125].

In a joint project TUWIEN and UMAN/TUCLAUSTHAL, have proposed the use of DLVK in a planning approach supporting design and monitoring of multi-agent-systems [16, 126].

Planning problems based on Hierarchical Task Networks (HTN) are considered in [21, 127]. The use of ASP makes it possible to improve and extend HTN planning in various ways, for instance since ASP is well suited to handle incomplete information (while HTN planning is not), there are possibilities to deal with extensions of HTN planning under incomplete information.

Two new tools, KDiagnose and KMonitor provide implementations for advanced problems in knowledge-based planning. While KDiagnose finds explanations for a plan execution discrepancy, KMonitor observes plan execution in a non-deterministic environment, where one may reach some state which does not correspond to any of the expected trajectories. Both systems are based on DLV and DLVK. Related references are [128, 129]

Another system PAL (Pertinence Action Language) is implemented at UNICORUNA using Smodels as a back-end (see also [97]).

Further work within WASP-nodes related to planning includes [17, 133, 18, 19, 20, 82, 83, 84, 98, 99, 100, 101, 130, 131, 132].

Collected Links:

- DLVK-homepage: http://www.dbai.tuwien.ac.at/proj/dlv/K/
- Graphical user interface for DLVK: http://sourceforge.net/projects/dlvkgui/
- Project description for DLVK: http://www.kr.tuwien.ac.at/staff/axel/planning/
- Planning as monitoring: http://www.cs.man.ac.uk/~zhangy/project/monitor/
- PAL-homepage: http://www.dc.fi.udc.es/ai/~cabalar/pal/
- HTN-planning: http://www.in.tu-clausthal.de/~yzhang/ASP_Planning
- KDiagnose: http://www.kr.tuwien.ac.at/research/plan_diagnosis/index.html
- Kmonitor: http://www.kr.tuwien.ac.at/research/monitoring/

Preference Reasoning and Advanced Web Data Access

One of the most promising areas for applying ASP in a real-world setting is to provide advanced reasoning services in the context of the Semantic Web. Such services clearly require declarative methods dealing with default and preference information. These requirements are perfectly met by ASP [22] and its extensions for preference reasoning [23, 24, 25, 26, 110, 111, 112, 122, 134, 135], which are supported by several available implementations. We mention here the `plp` front-end [27, 28] which implements different preference-handling strategies developed in the literature [88] on top of the `DLV` -engine, the `gcplp`-system [29, 113], as well as the more recent system `nomore<` [136], which both make use of graphs following the `NoMoRe` approach, and the system `psmodels`, a modification of `Smodels` that can be used to compute preferred answer sets under the ordered disjunction semantics. Another approach is to consider a "quantitative" preference relation that associates a weight with each rule in a program. Applications for this extension are discussed in [140, 141]. As recently shown, preferences are also a desired feature in planning and casual reasoning [89]. Another important core equipment for the required reasoning systems could be so-called open logic programs, in which not all parts of a program are known in advance [30] and thus reflect the inherent incompleteness of the information provided by the WWW. A similar role may be played by taking different notions of equivalences [31, 32, 33, 34, 90, 119] between logic programs into account.

Furthermore, in order to apply ASP for advanced web access the possibility to deal with domain-specific languages and ontologies, as well as suitable treatment of dynamic knowledge bases are crucial. In this context there has been remarkable success within the last years [35, 36, 37, 38, 39, 40, 41, 137, 138]. From a more abstract point of view, the work at VUB [42, 43, 121, 139] extends ASP in order to integrate an expressive class of description logics which are able to play the role of an ontology language, as well as a rule language on the Semantic Web. This kind of logic programs proves to be suitable for Semantic Web reasoning by simulating an expressive subclass of the ontology language OWL DL and provides a natural framework for representing rule-based knowledge and ontologies. Some additional benefits of using ASP, compared with OWL DL, are the ability to close the domain at will and to succinctly represent knowledge that is not trivially expressible using OWL DL.

A similar technique combining description logics and ASP is drawn out at TUWIEN where so-called description logic programs are proposed and a corresponding solver called NLP-DL is available. The technical details are addressed in several papers [85, 145, 146, 147, 148, 149]. Further work relating nonmonotonic reasoning principles with the Semantic web includes [44, 45] and is also part of work packages in REWERSE, the EC Network of Excellence.

Another related project is INFOMIX initiated by the two WASP-nodes TUWIEN and UNICAL together with Universita "La Sapienza" - Roma and the polish company Rodan Systems S.A. The main goal of the INFOMIX project is to provide a set of techniques and associated tools for powerful information integration by using advanced reasoning capabilities, as for instance ASP; see [87] for a concrete application of ASP, or [117, 124 152, 153] for dedicated features for data integration in `DLV`. General information about this project can be found in [150, 151, 154, 155].

Further work on information integration and related tasks are [142, 143] which use the ASP-like ID-Logic as underlying semantics, [144] which employs abductive logic programming techniques, and research at WASP-nodes UNIVAQ [46], UNIME [156, 157, 158, 159, 160], and UNILEIPZIG [161]. Finally, an application of ASP for Web Service Composition [193] has won the first prize in the EEE-Web Service Composition Contest.

Collected Links:

- `plp`-homepage: http://www.cs.uni-potsdam.de/~torsten/plp/
- `gcplp`-homepage: http://www.cs.uni-potsdam.de/~konczak/system/GCplp/
- `psmodels`-homepage: http://www.tcs.hut.fi/Software/smodels/priority/
- INFOMIX-homepage: http://sv.mat.unical.it/infomix/
- REWERSE-homepage: http://rewerse.net/
- `nomore<` homepage: http://www.cs.uni-potsdam.de/wv/nomorepref
- NLP-DL prototype: http://www.kr.tuwien.ac.at/staff/roman/semweblp

Verification and Configuration

Viewing ASP as basis for a constraint programming paradigm [20] leads to the computation of optimal solutions which may be specified by weights [47, 48]. This allows for numerous further applications. For instance, in product configuration [49] ASP can be used as a declarative semantics providing formal definitions for main concepts in product configuration, including configuration models, requirements and valid configurations. A similar application field is software configuration [50]. This research has led to a prototype configurator for the complete Debian Linux system distribution [51]. For further information on ASP-applications in configuration refer to [162, 163, 164, 165, 166]. Moreover, the important area of symbolic model checking is well suited for ASP as shown in [52, 53, 54, 55], and recently in [114], where Boolean equation systems are solved via ASP.

In particular, HUT is focusing on symbolic model checking and software configuration. An overview about this research is summarized in two projects titled Constraint Programming Based on Default Rules, and respectively, Applications of Rule-Based Constraint Programming; both links include basic information about the aforecited topics, a comprehensive list of references, and links to relevant software. Furthermore, the product configuration research employing ASP techniques for implementation is also done in the product data management group of HUT, where interesting applications are emerging, e.g., the WeCoTin project on Web configuration technology with `Smodels` employed as a core-engine.

Other work includes an application [167] addressing the problem of VLSI-routing using ASP. Finally, we mention that also the concept of inheritance [56] can be used for configuration tasks, providing a natural representation of reasoning with exceptions. Inheritance is implemented as a frontend within `DLV`.

Collected Links:

- Research at HUT (Projects, Software, ...): http://www.tcs.hut.fi/Research/Logic/
- Debian configuration: http://www.tcs.hut.fi/~tssyrjan/configuration/
- WeCoTin-homepage: http://www.soberit.hut.fi/WeCoTin/
- DLV with inheritance: http://www.dbai.tuwien.ac.at/proj/dlv/inheritance/

Multi-Agent Systems

Software agents are an approach to develop large distributed systems, and are most likely to become the next programming paradigm for this rapidly growing area. Software agents which allow to access information in a heterogeneous information system as provided by sites connected by the Internet (see also above) are an interesting application area for ASP. VUB presents in [57] systems of logic programming agents to model the interactions between decision-makers while evolving to a conclusion. Such a system consists of a number of agents connected by means of unidirectional communication channels. Agents communicate with each other by passing answer sets obtained by updating the information received from connected agents with their own private information. At UNIVAQ, an ASP solver is integrated into the DALI language interpreter. DALI is a logic programming language aimed at defining agents and multi-agent systems, with advanced reactive and proactive features, see also [102, 104, 171, 172]. Finally, also UNIRC is involved in joint research within this area, see for instance [58, 168]. Further recent research includes [169, 170].

Collected Links:

- DALI-homepage: http://costantini.di.univaq.it/DALI.htm
- Knowledge-based agents for advanced information access; project-homepage: http://www.kr.tuwien.ac.at/staff/giuliana/project.html

Security and Crypto-Analysis

Formal verification of security protocols has become a key issue in computer security. For instance, in [59, 60] it is shown how security protocols can be specified and verified efficiently and effectively by embedding reasoning about actions into a logic programming language. In particular, `Smodels` is employed in order to model two significant case studies in protocol verification: the classical Needham-Schroeder public-key protocol, and the Aziz-Diffie key agreement protocol for mobile communication.

In [61], the US Data Encryption Standard (DES) is put forward as an interesting benchmark problem for nonmonotonic reasoning systems, presenting two encodings of DES as logic programs: a direct one out of the standard specifications and an optimized one extending the work of Massacci and Marraro [62]. The computational properties of the ASP-encodings are studied by using them for DES key search with the `Smodels`-system. Results indicate that the encodings applied to `Smodels` are quite competitive: they outperform state-of-the-art SAT-checkers working with an optimized encoding of DES into SAT and are comparable with a SAT-checker that is customized and tuned for the optimized SAT encoding.

The work on security and access controls has been further extended by UNITN. One line of research (see [94, 95, 96]) uses ASP as the main inference for access control on business process for web services, by defining an architecture for interactive access control which uses abduction over ASP to determine the set of credentials needed by a user to access a service. A more sophisticated reasoning service is also available for performing trust negotiation. The system has been integrated with a mainstream privilege management infrastructure (PERMIS) and uses a state of the art engine for business processes for web services (Collaxa). The usage of `DLV` and its deduction and abduction engine is entirely transparent to the user which only needs to see the declarative policy. A second line of research resulted in the ST-Tool, (Secure Tropos Tool) a CASE tool which allows the creation of formally consistent security requirements systems. It supplies a visual editor to design the system models, performs integrity analysis according to the SecureTropos agent-oriented requirements engineering methodology and uses ASP solvers to perform automatic verification on system models, in order to detect security lacks. For details, see [91, 92, 93, 188, 189, 190].

Finally we mention that the concept of open logic programs has been shown to be relevant for tasks as policy verification [17].

Collected Links:

- Propositional crypto challenges: http://www.ing.unitn.it/~massacci/CryptoSAT/
- DES-benchmarks: http://www.tcs.hut.fi/Software/smodels/tests/des.html
- General ASP-benchmarks: http://www.asparagus.cs.uni-potsdam.de/
- ST-tool: http://sesa.dit.unitn.it/

Diagnostic Systems and Inconsistency Management

Abductive Logic Programming [63, 64] is widely accepted as a promising approach for diagnostic reasoning tasks. Most research in this area is concerned with the SLDNFA-procedure [65], extending the well known prolog-resolution. In recent work [109], it is shown how to effectively use ASP to deal with abduction over unbounded domains. Another feature is to add penalization to the abduction problem [173].

For implementations within the core answer-set paradigm we refer to the diagnosis frontend integrated to the `DLV`-system, see [66]. One of the most prominent applications for diagnosis using logic programs is a project between Texas Tech University and United Space Alliance on developing a decision support system for the ground controllers of space shuttles [67].

Related to diagnostic reasoning is dealing with inconsistent data *per se*. In [68] it is shown how `DLV` can be used to repair inconsistent or incomplete census data; see also [116] in this context. Recently, a logical foundation for inconsistent answer sets has been proposed in [174].

Brewka [76] suggests to use ordered disjunctions [26, 111] as well as abduction techniques [66] for qualitative decision making within the context of ASP. Another approach is followed in [69, 122] using so-called ordered logic programs where the answer set semantics is extended to deal with inconsistent programs (containing classical negation), by finding a ‘‘best’’ answer set. It turns out that this preferred answer set semantics is useful for several applications, for instance database repairs, where minimal repairs are shown to correspond to preferred answer sets. In [70] this approach is further developed by showing that a diagnostic system, both consistency-based and abductive, can be regarded as an ordered logic theory. The preferred answer set semantics nicely fits this intuition: if the observations contradict the normal system behavior, then the semantics will provide an explanation from the fault rules. Furthermore, [71] shows that this approach can be extended to perform abductive reasoning in general, with either a preference relation on the set of abducibles or on the system description itself. The latter case appears naturally in applications such as legal reasoning where rules carry a natural precedence. Finally, recent work extends this approach to model reasoning of agents [105, 106, 120].

Collected Links:

- Frontend for OCLPs: http://www.cs.bath.ac.uk/~mdv/oct/

Game Theory and Games

In [72, 73, 74] programs are extended by a new connective representing exclusive disjunction and later by a method to express circumstance-dependent preferences. More specifically, this kind of programs allows for an elegant and intuitive tool to transform finite extensive games with perfect information such that the answer sets of the program correspond, depending on the transformation, to either the Nash equilibria or the subgame perfect equilibria of the game. For some recent developments, see [75, 107, 108]. In distinct recent work, UNIME combines ASP-planning with interactive gaming environments [123]. Furthermore, the following links provide games(-like) applications for ASP.

Collected Links:

- Sokoban (download): http://www.tcs.hut.fi/~tssyrjan/software/ssokoban.tar.gz
- Constraint Lingo: http://www.cs.uky.edu/~raphael/cl.html

Further Applications

Applications from various areas can be found in the literature, including

- auctions [77, 175],
- scheduling [78],
- policy description [79],
- workflow management [80],
- outlier detection [115, 118],
- linguistics [176, 177, 178, 179, 180],
- text analysis [181, 182, 183],
- E-learning [184], and
- bio-informatics [185].

Finally, we refer to papers concerned for engineering ASP-solution. The work in [86, 191] presents a general technique to implement guess and check programs in ASP, which is helpful in several application domains, while [186, 187] are starting points for debugging ASP-programs. Furthermore, we mention the DLV Java Wrapper [81], a library that "wraps" the DLV-system in an external application, and thus allows to embed ASP-techniques inside object-oriented source code.

References

1
T. Dell’Armi, W. Faber, G. Ielpa, C. Koch, N. Leone, S. Perri, and G. Pfeifer.
TUWIEN, UNICAL.
System Description: DLV.
Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

2
N. Leone, G. Pfeifer, W. Faber, T. Eiter, G. Gottlob, C. Koch, C. Mateis, S. Perri and F. Scarcello.
TUWIEN, UNICAL.
The DLV System for Knowledge Representation and Reasoning.
ACM Transactions on Computational Logic. To appear.

3
I. Niemelä, P. Simons, and T. Syrjänen.
HUT.
Smodels: A System for Answer Set Programming.
Proceedings of the 8th International Workshop on Non-Monotonic Reasoning (NMR), 2000.

4
P. Simons, I. Niemelä, and T. Soininen.
HUT.
Extending and Implementing the Stable Model Semantics.

Artificial Intelligence, 2002.

5
C. Anger, K. Konczak, and T. Linke.
UNIPOTSDAM.
NoMoRe: A System for Non-Monotonic Reasoning.
Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

6
T. Linke, C. Anger, and K. Konczak.
UNIPOTSDAM.
More on NoMoRe.
Proceedings of the 8th European Conference on Artificial Intelligence (JELIA), 2002.

7
F. Lin and Y. Zhao.
ASSAT: Computing Answer Sets of a Logic Program by SAT Solvers.
Proceedings of the 18th National Conference on Artificial Intelligence (AAAI), 2002.

8
F. Lin and J. Zhao.
On Tight Logic Programs and Yet Another Translation from Normal Logic Programs to Propositional Logic.
Proceedings of the 18th International Joint Conference on Artificial Intelligence (IJCAI), 2003.

9
A. Provetti and Son Tran Cao.
UNIME.
Proceedings AAAI 2001 Spring Symposium on Answer Set Programming.

10
M. Gelfond and N. Leone.
UNICAL.
Logic Programming and Knowledge Representation - The A-Prolog Perspective.
Artificial Intelligence, 2002.

11
V. Lifschitz.
Answer Set Programming and Plan Generation.
Artificial Intelligence, 2002.

12
C. Baral.
Knowledge Representation, Reasoning and Declarative Problem Solving.
Cambridge Press, 2003.

13
N. Leone, R. Rosati, and F. Scarcello.
UNICAL.
Enhancing Answer Set Planning.
IJCAI Workshop on Planning under Uncertainty and Incomplete Information, 2001.

14
T. Eiter, W. Faber, N. Leone, G. Pfeifer, and A. Polleres.
TUWIEN, UNICAL.
A Logic Programming Approach to Knowledge-State Planning, II: the DLVK System.
Artificial Intelligence, 2003.

15
A. Polleres.
TUWIEN.
Advances in Answer Set Planning.
PhD Thesis. TU Wien, 2003.

16
J. Dix, T. Eiter, M. Fink, A. Polleres and Y. Zhang.
UMAN/TUCLAUSTHAL, TUWIEN.
Monitoring Agents using Planning.
Proceedings of the German Conference on Artificial Intelligence (KI), 2003.

17
P. Bonatti.
UNINA.
Reasoning with Infinite Stable Models.
Proceedings of the 17th International Joint Conference on Artificial Intelligence (IJCAI), 2001.

18
P. Bonatti.
UNINA.
Prototypes for Reasoning with Infinite Stable Models and Function Symbols.

Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

19
Y. Dimopoulos, A. Kakas, and L. Michael.
UCY.
Reasoning about Actions and Change in Answer Set Programming.
Proceedings of the 7th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2004.

20
I. Niemelä.
HUT.
Logic Programming with Stable Model Semantics as Constraint Programming Paradigm.
Annals of Mathematics and Artificial Intelligence, 1999.

21
J. Dix, U. Kuter, and Dana Nau.
UMAN/TUCLAUSTHAL.
Planning in Answer Set Programming using Ordered Task Decomposition.
Proceedings of the German Conference on Artificial Intelligence (KI), 2003.

22
G. Ianni, F. Calimeri, V. Lio, and S. Galizia.
UNICAL.
Reasoning about the Semantic Web using Answer Set Programming.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

23
G. Brewka and T. Eiter.
UNILEIPZIG, TUWIEN.
Preferred Answer Sets for Extended Logic Programs.
Proceedings 6th International Conference on Principles of Knowledge Representation and Reasoning (KR), 1998.

24
J. Delgrande, T. Schaub, and H. Tompits.
UNIPOTSDAM, TUWIEN.
Logic Programs with Compiled Preferences.
Proceedings of the 14th European Conference on Artificial Intelligence (ECAI), 2000.

25
T. Eiter, W. Faber, N. Leone, and G. Pfeifer.
TUWIEN, UNICAL.
Computing Preferred and Weakly Preferred Answer Sets by Meta-Interpretation in Answer Set Programming.
Theory and Practice of Logic Programming, 2003.

26
G. Brewka, I. Niemelä, and T. Syrjänen.
UNILEIPZIG, HUT.
Implementing Ordered Disjunction Using Answer Set Solvers for Normal Programs.
Proceedings of the 8th European Conference on Artificial Intelligence (JELIA), 2002.

27
J. Delgrande, T. Schaub, and H. Tompits.
UNIPOTSDAM, TUWIEN.
`plp`: A Generic Compiler for Ordered Logic Programs.
Proceedings of the Sixth International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

28
J. Delgrande, T. Schaub, and H. Tompits.
UNIPOTSDAM, TUWIEN.
A Framework for Compiling Preferences in Logic Programs.
Theory and Practice of Logic Programming, 2003.

29
K. Konczak, T. Schaub, and T. Linke.
UNIPOTSDAM.
Graphs and Colorings for Answer Set Programming with Preferences: Preliminary Report.
Proceedings ASP-03. Available under: http://ceur-ws.org/Vol-78/.

30
P. Bonatti.
UNINA.
Reasoning with Open Logic Programs.
Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

31
V. Lifschitz, D. Pearce, and A. Valverde.
URJC.
Strongly Equivalent Logic Programs.
ACM Transactions on Computational Logic, 2001.

32
T. Eiter, M. Fink, H. Tompits, and S. Woltran.
TUWIEN.
Simplifying Logic Programs under Uniform and Strong Equivalence.
Proceedings of the 7th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2004.

33
T. Eiter and M. Fink.
TUWIEN.
Uniform Equivalence of Logic Programs under the Stable Model Semantics.
Proceedings of the 19th International Conference on Logic Programming (ICLP), 2003.

34
D. Pearce and A. Valverde.
URJC.
Some Types of Equivalence for Logic Programs and Equilibrium Logic.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

35
T. Eiter, M. Fink, G. Sabbatini, and H. Tompits.
TUWIEN.
A Framework for Declarative Update Specifications in Logic Programs.
Proceedings of the 17th International Joint Conference on Artificial Intelligence (IJCAI), 2001.

36
T. Eiter, M. Fink, G. Sabbatini, and H. Tompits.
TUWIEN.
Considerations on Updates of Logic Programs.
Proceedings of the 7th European Workshop on Logic in Artificial Intelligence (JELIA), 2000.

37
T. Eiter, M. Fink, G. Sabbatini, and H. Tompits.
TUWIEN.
On Properties of Update Sequences Based on Causal Rejection.
Theory and Practice of Logic Programming, 2002.

38
T. Eiter, M. Fink, G. Sabbatini, and H. Tompits.
TUWIEN.
Reasoning about Evolving Nonmonotonic Knowledge Bases.
Proceedings of the 8th International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2001.

39
T. Eiter, M. Fink, G. Sabbatini, and H. Tompits.
TUWIEN.
Using Methods of Declarative Logic Programming for Intelligent Information Agents.
Theory and Practice of Logic Programming, 2002.

40
J. Alferes, J. Leite, L. Pereira, H. Przymusinska, and T. Przymusinski.
Dynamic Updates of Non-Monotonic Knowledge Bases.
Journal of Logic Programming, 2000.

41
F. Calimeri, S. Galizia, M. Ruffolo, and P. Rullo.
UNICAL.
Enhancing Disjunctive Logic Programming for Ontology Specification.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

42
S. Heymans and D. Vermeir.
VUB.
Integrating Ontology Languages and Answer Set Programming.
Proc. of the 2nd International Workshop on Web Semantics (DEXA/WEBS), 2003.

43
S. Heymans and D. Vermeir.
VUB.
Integrating Description Logics and Answer Set Programming.
Workshop on Principles and Practice of Semantic Web Reasoning (PPSWR), 2003.

44
A. Provetti, E. Bertino, and F. Salvetti.
UNIME.
Local Closed-World Assumptions for reasoning about Semantic Web data.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

45
G. Antoniou.

Nonmonotonic Rule Systems on Top of Ontology Layers.
International Semantic Web Conference 2002.

46
S. Costantini, A. Formisano, and E. Omodeo.
UNIVAQ.
Mappings Between Domain Models in Answer Set Programming.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

47
F. Buccafurri, N. Leone, and P. Rullo.
UNICAL, UNIRC.
Strong and Weak Constraints in Disjunctive Datalog.
Proceedings of the 4th International Conference on Logic Programming and Non-Monotonic Reasoning (LPNMR), 1997.

48
I. Niemelä and P. Simons.
HUT.
Extending the `Smodels` System with Cardinality and Weight Constraints.
Logic-Based Artificial Intelligence. Kluwer Academic Publishers, 2000.

49
T. Soininen and I. Niemelä.
HUT.
Developing a Declarative Rule Language for Applications in Product Configuration.
Proceedings of the 1st International Workshop on Practical Aspects of Declarative Languages (PADL), 1999.

50
T. Syrjänen.
HUT.
Including Diagnostic Information in Configuration Models.
Computational Logic - CL 2000, First International Conference, 2000, Proceedings.

51
T. Syrjänen.
HUT.
A Rule-Based Formal Model for Software Configuration.
Technical Report, HUT.

52
K. Heljanko.
HUT.
Using Logic Programs with Stable Model Semantics to Solve Deadlock and Reachability Problems for 1-Safe Petri Nets.
Proceedings Tools and Algorithms for Construction and Analysis of Systems, 5th International Conference (TACAS), 1999.

53
K. Heljanko and I. Niemelä.
HUT.
Bounded LTL Model Checking with Stable Models.
Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

54
K. Heljanko and I. Niemelä.
HUT.
Bounded LTL Model Checking with Stable Models.
Theory and Practice of Logic Programming, 2003.

55
K. Varpaaniemi.
HUT.
Stable Models for Stubborn Sets.
Fundamenta Informaticae, 2000.

56
F. Buccafurri, W. Faber, and N. Leone.
UNIRC, TUWIEN, UNICAL.
Disjunctive Logic Programs with Inheritance.
Theory and Practice of Logic Programming, 2003.

57
M. de Vos and D. Vermeir.
BATH, VUB.
Logic Programming Agents Playing Games.
Research and Development in Intelligent Systems XIX (ES2002).

58
F. Buccafurri and G. Gottlob.
UNIRC, TUWIEN.
Multiagent Compromises and Joint Fixpoint Semantics.

Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

59
L. Aiello and F. Massacci.
UNITN.
Planning Attacks to Security Protocols: Case Studies in Logic Programming.
Computational Logic: Logic Programming and Beyond 2002.

60
L. Aiello and F. Massacci.
UNITN.
Verifying Security Protocols as Planning in Logic Programming.
ACM Transactions on Computational Logic, 2001.

61
M. Hietalahti, F. Massacci, and I. Niemelä.
HUT, UNITN.
DES: A Challenge Problem for Nonmonotonic Reasoning Systems.
Proceedings of the 8th International Workshop on Non-Monotonic Reasoning, 2000.

62
F. Massacci and L. Marraro.
UNITN.
Logical Cryptanalysis as a SAT Problem.
Journal of Automated Reasoning, 2000.

63
A. Kakas, R. Kowalski, and F. Toni.
UCY.
The Role of Abduction in Logic Programming.
Handbook of logic in Artificial Intelligence and Logic Programming 5. Oxford University Press, 1998.

64
T. Eiter, G. Gottlob, and N. Leone.
TUWIEN.
Abduction from Logic Programs: Semantics and Complexity.
Theoretical Computer Science, 1997.

65
M. Denecker and D. De Schreye.
KULEUVEN.
SLDNFA: An Abductive Procedure for Normal Abductive Programs.
Journal of Logic Programming, 1998.

66
T. Eiter, W. Faber, N. Leone, and G. Pfeiffer.
TUWIEN.
The Diagnosis Frontend of the DLV System.
AI Communications, 1999.

67
M. Gelfond, M. Balduccini, and J. Galloway.
Diagnosing Physical Systems in A-Prolog.
Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

68
E. Franconi, A. Palma, N. Leone, S. Perri, and F. Scarcello.
UNICAL.
Census Data Repair: A Challenging Application of Disjunctive Logic Programming.
Proceedings of the 8th International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2001.

69
D. van Nieuwenborgh and D. Vermeir.
VUB.
Preferred Answer Sets for Ordered Logic Programs.
Proceedings of the 8th European Conference on Artificial Intelligence (JELIA), 2002.

70
D. van Nieuwenborgh and D. Vermeir.
VUB.
Ordered Diagnosis.
Proceedings of the 9th International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR) 2003.

71
D. van Nieuwenborgh and D. Vermeir.
VUB.
Ordered Programs as Abductive Systems
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

72
M. de Vos and D. Vermeir.
BATH, VUB.
Choice Logic Programs and Nash Equilibria in Strategic Games.
Computer Science Logic (CSL), 1999.

73
M. de Vos and D. Vermeir.
BATH, VUB.
On the Role of Negation in Choice Logic Programs.
Proceedings of the 5th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 1999.

74
M. de Vos and D. Vermeir.
BATH, VUB.
A Logic for Modeling Decision Making with Dynamic Preferences.
Proceedings of the 7th European Workshop on Logic in Artificial Intelligence (JELIA), 2000.

75
M. de Vos and D. Vermeir.
BATH, VUB.
Dynamic Decision Making in Logic Programming and Game Theory.
AI2002: Advances in Artificial Intelligence, 2002.

76
G. Brewka.
UNILEIPZIG.
Answer Sets and Qualitative Decision Making.
Synthese, 2005.

77
C. Baral and C. Uyan.
Declarative Specification and Solution of Combinatorial Auctions Using Logic Programming.
Proceedings of the 6th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001.

78
W. Faber, N. Leone, and G. Pfeifer.
TUWIEN.
Representing School Timetabling in a Disjunctive Logic Programming Language.
Proceedings of the 13th Workshop on Logic Programming (WLP), 1998.

79
E. Bertino, A. Mileo, and A. Provetti.
UNIME.
User Preferences VS Minimality in PPDL.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

80
G. Greco, A. Guzzo, and D. Sacca.
UNICAL.
A Logic Programming Approach for Planning Workflows Evolutions.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

81
F. Ricca.
UNICAL.
The DLV Java Wrapper.
Proceedings of the 2003 Joint Conference on Declarative Programming APPIA-GULP-PRODE 2003.

82
T. Eiter, E. Erdem, and W. Faber.
TUWIEN.
Plan Reversals for Recovery in Execution Monitoring.
Proceedings of the 10th Workshop on Nonmonotonic Reasoning (NMR), 2004.

83
T. Eiter, W. Faber, N. Leone, G. Pfeifer, and A. Polleres.
TUWIEN, UNICAL.
Answer Set Planning under Action Costs.
Journal of Artificial Intelligence Research, 2003.

84
T. Eiter, W. Faber, G. Pfeifer, and A. Polleres.
TUWIEN.
Declarative Planning and Knowledge Representation in an Action Language.
Intelligent Techniques for Planning, 2004.

85
T. Eiter, T. Lukasiewicz, R. Schindlauer, and H. Tompits.

TUWIEN.
Combining Answer Set Programming with Description Logics for the Semantic Web.
Proceedings of the 9th International Conference on Principles of Knowledge Representation and Reasoning (KR), 2004.

86
T. Eiter and A. Polleres.
TUWIEN.
Towards Automated Integration of Guess and Check Programs in Answer Set Programming.
Proceedings of the 7th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2004.

87
T. Eiter, M. Fink, G. Greco, and D. Lembo.
TUWIEN, UNICAL.
Efficient Evaluation of Logic Programs for Querying Data Integration Systems.
Proceedings of the 19th International Conference on Logic Programming (ICLP), 2003.

88
J. Delgrande, T. Schaub, H. Tompits, and K. Wang.
UNIPOTSDAM, TUWIEN.
A Classification and Survey of Preference Handling Approaches in Nonmonotonic Reasoning.
Computational Intelligence, 2004.

89
J. Delgrande, T. Schaub, and H. Tompits.
UNIPOTSDAM, TUWIEN.
Domain-Specific Preferences for Causal Reasoning and Planning.
Proceedings of the Ninth International Conference on Principles of Knowledge Representation and Reasoning (KR), 2004.

90
S. Woltran.
TUWIEN.
Characterizations for Relativized Notions of Equivalence in Answer Set Programming.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

91
P. Giorgini, F. Massacci, J. Mylopoulos, and N. Zannone.
UNITN.
Requirements Engineering Meets Trust Management: Model, Methodology, and Reasoning.
Proceedings of the 2nd International Conference on Trust Management (iTrust), 2004.

92
F. Massacci and N. Zannone.
UNITN.
Privacy is Linking Permission to Purpose: Extended Abstract.
Proceedings of the 12th International Workshop on Security Protocols, 2004.

93
P. Giorgini, F. Massacci, J. Mylopoulos, and N. Zannone.
UNITN.
Filling the Gap between Requirements Engineering and Public Key/Trust Management Infrastructures.
Proceedings of the 1st European PKI Workshop Research and Applications (EuroPKI), 2004.

94
H. Koshutanski and F. Massacci.
UNITN.
A Logical Model for Security of Web Services.
Proceedings of the 1st International Workshop on Formal Aspects of Security and Trust (FAST), 2003.

95
H. Koshutanski and F. Massacci.
UNITN.
An Access Control System for Business Processes for Web Services.
Proceedings of the Nordic Workshop on Secure IT Systems (NORDSEC), 2003.

96
H. Koshutanski and F. Massacci.
UNITN.
An Access Control Framework for Business Processes for Web Services.
Proceedings of the ACM Workshop on XML Security (XMLSEC), 2003.

97
P. Cabalar.
UNICORUNA.
A Preliminary Study on Reasoning about Causes.
Proceedings of the AAAI 2003 Spring Symposium Series, 2003.

98
J. Dix, M. Fisher, H. Levesque, and L. Sterling (eds.)
UMAN/TUCLAUSTHAL.

Logic Based Implementation of Agent Systems.
Annals of Mathematics and Artificial Intelligence, 2004.

99
J. Dix, F. Öczan, and V.S. Subrahmanian.
UMAN/TUCLAUSTHAL.
Improving Performance of Heavily Loaded Agents.
Annals of Mathematics and Artificial Intelligence, 2004.

100
M. Dastani, J. Dix, and A.E. Fallah-Segrouchni (eds.)
UMAN/TUCLAUSTHAL.
Proceedings Programming Multi Agent Systems (ProMAS), 2003.

101
J. Dix, H. Munoz-Avila, Dana Nau, and L. Zhang.
UMAN/TUCLAUSTHAL.
IMPACTing SHOP: Putting an AI Planner into a Multi-Agent Environment.
Annals of Mathematics and Artificial Intelligence, 2003.

102
S. Costantini and A. Tocchio.
UNIVAQ.
The DALI Logic Programming Agent-Oriented Language.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

103
S. Costantini, B. Intrigila, and A. Provetti.
UNIVAQ, UNIME.
Coherence of Updates in Answer Set Programming.
Proceedings of the IJCAI Workshop on Nonmonotonic Reasoning, Action and Change (NRAC), 2003.

104
S. Costantini and A. Tocchio.
UNIVAQ.
Context-Based Commonsense Reasoning in the DALI Logic Programming Language.
Modeling and Using Context, 4th International and Interdisciplinary Conference (CONTEXT), 2003.

105
S. Corradi.
BATH.
TOADS: A Tool to Aid in the Development of MAS consisting of OCLP-minded Agents.
Undergraduate Dissertation, University of Bath, U.K., 2004

106
M. De Vos and D. Vermeir.
BATH, VUB.
Extending Answer Sets for Logic Programming Agents.
Annals of Mathematics and Artifical Intelligence, 2004.

107
M. De Vos and M. Brain.
BATH.
Implementing OCLP as a Front-end for Answer Set Solvers: From Theory to Practice.
Proceedings ASP-03. Available under: http://ceur-ws.org/Vol-78/.

108
M. De Vos.
BATH.
Implementing Ordered Choice Logic Programming using Answer Set Solvers.
Proceedings of the 3rd International Symposium on Foundations of Information and Knowledge Systems (FoIKS), 2004.

109
P. Bonatti
UNINA.
Abduction over Unbounded Domains via ASP.
Proceedings of the European Conference on Artificial Intelligence (ECAI), 2004.

110
G. Brewka.
UNILEIPZIG.
Complex Preferences for Answer Set Optimization.
Proceedings of the Ninth International Conference on Principles of Knowledge Representation and Reasoning (KR), 2004.

111
G. Brewka, I. Niemelä, and T. Syrjänen.
UNILEIPZIG, HUT.
Logic Programs with Ordered Disjunction.
Computational Intelligence, Special Issue on Preference Handling, 2004.

112
G. Brewka, I. Niemelä, and M. Truszczynski.
UNILEIPZIG, HUT.
Answer Set Optimization.
Proceedings of the 18th International Joint Conference on Artificial Intelligence (IJCAI), 2003.

113
K. Konczak, T. Schaub, and T. Linke.
UNIPOTSDAM.
Graphs and Colorings for Answer Set Programming with Preferences.
Fundamenta Informaticae 57(2-4), 2003.

114
M. Keinänen and I. Niemelä.
HUT.
Solving Alternating Boolean Equation Systems in Answer Set Programming.
Proceedings of the 5th International Conference on Applications of Declarative Programming and Knowledge Management (INAP), 2004.

115
F. Angiulli, G. Greco, and L. Palopoli.
UNICAL.
Discovering Anomalies in Evidential Knowledge by Logic Programming.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

116
G. Greco, S. Greco, and E. Zumpano.
UNICAL.
A Logical Framework for Querying and Repairing Inconsistent Databases.
IEEE Transactions on Knowledge and Data Engineering, 2003.

117
F. Calimeri, M. Citrigno, C. Cumbo, W. Faber, N. Leone, S. Perri, and G. Pfeifer.
TUWIEN, UNICAL.
New DLV Features for Data Integration.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

118
F. Angiulli, R. Ben-Eliyahu-Zohary, and L. Palopoli.
UNICAL.
Outlier Detection Using Disjunctive Logic Programming.
Proceedings of the European Conference on Artificial Intelligence (ECAI), 2004.

119
D. Pearce and A. Valverde.
URJC.
Uniform Equivalence for Equilibrium Logic and Logic Programs.
Proceedings of the 7th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2004.

120
S. Heymans, D. Van Nieuwenborgh, and D. Vermeir.
VUB.
Hierarchical Decision Making by Autonomous Agents.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

121
S. Heymans, D. Van Nieuwenborgh, and D. Vermeir.
VUB.
Semantic Web Reasoning with Conceptual Logic Programs.
Rules and Rule Markup Languages for the Semantic Web Workshop, 2004.

122
D. Van Nieuwenborgh, S. Heymans, and D. Vermeir.
VUB.
On Programs with Linearly Ordered Multiple Preferences.
Proceedings of the 20th International Conference on Logic Programming (ICLP), 2004.

123
L. Padovani and A. Provetti.
UNIME.
Qsmodels: ASP Planning in Interactive Gaming Environment.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

124
N. Leone, V. Lio, and G. Terracina.
UNICAL.
DLV-DB Adding Efficient Data Management Features to ASP.
Proceedings of the 7th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2004.

Recently Added Publications (17.08.2005)

125
T. Eiter, W. Faber, N. Leone, G. Pfeifer, and A. Polleres.
TUWIEN, UNICAL.
A Logic Programming Approach to Knowledge-State Planning: Semantics and Complexity.
ACM Transactions on Computational Logic, 2004.

126
J. Dix, T. Eiter, M. Fink, A. Polleres, and Y. Zhang.
UMAN/TUCLAUSTHAL, TUWIEN.
Monitoring Agents using Declarative Planning.
Fundamenta Informaticae, 2003.

127
J. Dix, U. Kuter, and Dana Nau.
UMAN/TUCLAUSTHAL.
Planning in Answer Set Programming using Ordered Task Decomposition.
Festschrift in honor of Dov Gabbay's 60th birthday. 2005.

128
T. Eiter, E. Erdem, and W. Faber.
TUWIEN.
Diagnosing Plan Execution Discrepancies in a Logic-Based Action Framework.
Technical Report INFSYS RR-1843-04-03, 2004.

129
T. Eiter, M. Fink, and J. Senko.
TUWIEN.
KMonitor - A Tool for Monitoring Plan Execution in Action Theories.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

130
C. Baral, T. Eiter, and J. Zhao.
TUWIEN.
Using SAT and Logic Programming to Design Polynomial-Time Algorithms for Planning in Non-Deterministic Domains.
Proceedings of the 20th National Conference on Artificial Intelligence (AAAI), 2005.

131
T. Eiter, E. Erdem, M. Fink, and J. Senko.
TUWIEN.
Updating Action Domain Descriptions.
Proceedings of the 19th International Joint Conference on Artificial Intelligence (IJCAI), 2005.

132
R. Otero.
UNICORUNA.
Induction of Causal Ramifications for Action Descriptions in ASP.
Proceedings of the 21st International Conference on Logic Programming (ICLP), 2005.

133
P. Bonatti
UNINA.
Reasoning with Infinite Stable Models.
Artificial Intelligence, 2004.

134
G. Brewka, I. Niemelä, and M. Truszczynski.
UNILEIPZIG, HUT.
Prioritized Component Systems.
Proceedings of the 20th National Conference on Artificial Intelligence (AAAI), 2005.

135
T. Janhunen and E. Oikarinen.
HUT.
Capturing Parallel Circumscription with Disjunctive Logic Programs.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

136
S. Grell, K. Konczak, and T. Schaub.
UNIPOTSDAM.
`nomore<` : A System for Computing Preferred Answer Sets.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

137
J. C. Acosta Guadarramam, J. Dix, M. Osorio Galindo, and F. Zacarias.

UMAN/TUCLAUSTHAL.
Updates in Answer Set Programming based on structural properties.
Proceedings of the 7th International Symposium on Logical Formalizations of Commonsense Reasoning. 2005.

138
T. Eiter, M. Fink, G. Sabbatini, and H. Tompits.
TUWIEN.
Reasoning about evolving nonmonotonic knowledge bases.
ACM Transactions on Computational Logic, 2005.

139
D. Van Nieuwenborgh, S. Heymans, and D. Vermeir.
VUB.
Nonmonotonic Ontological and Rule-Based Reasoning with Extended Conceptual Logic Programs.
Proceedings of the 2nd European Semantic Web Conference (ESWC), 2005.

140
D. Van Nieuwenborgh, S. Heymans, and D. Vermeir.
VUB.
Weighted Answer Sets and Applications in Intelligence Analysis.
Proceedings of the 11th International Conference on Logic for Programming, Artificial Intelligence (LPAR), 2004.

141
D. Van Nieuwenborgh, S. Heymans, and D. Vermeir.
VUB.
Intelligence Analysis Using Quantitative Preferences.
Proceedings ASP-05, 2005.

142
B. Van Nuffelen, A. Cortes-Calabuig, M. Denecker, O. Arieli, and M. Bruynooghe.
KULEUVEN.
Data Integration Using ID-Logic.
Proceedings of the 16th International Conference on Advanced Information Systems Engineering (CAiSE), 2004.

143
B. Van Nuffelen, O. Arieli, A. Cortes-Calabuig, and M. Bruynooghe.
KULEUVEN.
An ID-Logic Formalization of the Composition of Autonomous Databases.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

144
O. Arieli, M. Denecker, B. Van Nuffelen, and M. Bruynooghe.
KULEUVEN.
Coherent Integration of Databases by Abductive Logic Programming.
Journal of Artificial Intelligence Research (JAIR), 2004.

145
T. Eiter, G. Ianni, R. Schindlauer, and H. Tompits.
TUWIEN.
Nonmonotonic Description Logic Programs: Implementation and Experiments.
Proceedings of the 11th International Conference on Logic for Programming, Artificial Intelligence (LPAR), 2004.

146
T. Eiter, G. Ianni, R. Schindlauer, and H. Tompits.
TUWIEN.
A Uniform Integration of Higher-Order Reasoning and External Evaluations in Answer Set Programming.
Proceedings of the 19th International Joint Conference on Artificial Intelligence (IJCAI), 2005.

147
G. Antoniou, M. Baldoni, C. Baroglio, R. Baumgartner, F. Bry, T. Eiter, N. Henze, M. Herzog, W. May, V. Patti, S. Schaffert, R. Schindlauer, and H. Tompits.
TUWIEN.
Reasoning Methods for Personalization on the Semantic Web.
Annals of Mathematics Computing and Teleinformatics, 2004.

148
T. Eiter, T. Lukasiewicz, R. Schindlauer, and H. Tompits.
TUWIEN.
Well-founded Semantics for Description Logic Programs in the Semantic Web.
Rules and Rule Markup Languages for the Semantic Web Workshop, 2004.

149
T. Eiter, T. Lukasiewicz, R. Schindlauer, and H. Tompits.
TUWIEN.
Combining Answer Set Programming with Description Logics for the Semantic Web.
Technical Report INFSYS RR-1843-03-13, 2003.

150
N. Leone, T. Eiter, W. Faber, M. Fink, G. Gottlob, G. Greco, E. Kalka, G. Ianni, D. Lembo, M. Lenzerini, V. Lio, B. Nowicki, R.

Rosati, M. Ruzzi, W. Staniszkis, and G. Terracina.
TUWIEN, UNICAL.
Data Integration: a Challenging ASP Application.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

151
T. Eiter, M. Fink, G. Greco, and D. Lembo.
TUWIEN, UNICAL.
Optimization Methods for Logic-Based Query Answering from Inconsistent Data Integration Systems.
Technical Report INFSYS RR-1843-05-05, 2005.

152
W. Faber, G. Greco, and N. Leone.
UNICAL.
Magic Sets and Their Application to Data Integration.
Proceedings of the 10th International Conference on Database Theory (ICDT), 2005.

153
W. Faber, G. Greco, and N. Leone.
UNICAL.
Magic Sets and Their Application to Data Integration.
Proceedings Sistemi Evoluti per Basi di Dati (SEBD), 2005.

154
N. Leone, T. Eiter, W. Faber, M. Fink, G. Gottlob, and G. Greco.
TUWIEN, UNICAL.
Boosting Information Integration: The INFOMIX System.
Proceedings Sistemi Evoluti per Basi di Dati (SEBD), 2005.

155
N. Leone, G. Greco, G. Ianni, V. Lio, G. Terracina, T. Eiter, W. Faber, M. Fink, G. Gottlob, R. Rosati, D. Lembo, M. Lenzerini, M. Ruzzi, E. Kalka, B. Nowicki, and W. Staniszkis.
TUWIEN, UNICAL.
The INFOMIX system for advanced integration of incomplete and inconsistent data.
Proceedings of the ACM SIGMOD International Conference on Management of Data, 2005.

156
E. Bertino, A. Mileo, and A. Provetti.
UNIME.
PDL with Preferences.
Proceedings of the IEEE International Workshop on Policies for Distributed Systems and Networks (POLICY), 2005.

157
E. Bertino, A. Mileo, and A. Provetti.
UNIME.
Declarative Policies for Web Service Selection.
Proceedings of the IEEE International Workshop on Policies for Distributed Systems and Networks (POLICY), 2005.

158
E. Bertino, A. Mileo, and A. Provetti.
UNIME.
Specification and Execution of Declarative Policies for Grid Service Selection.
Proceedings of the European Conference on Web Services (ECOWS), 2004.

159
E. Bertino, A. Mileo, and A. Provetti.
UNIME.
Specification and Execution of Policies for Grid Service Selection.
Proceedings of the IEEE International Conference on Web Services (ICWS), 2004.

160
E. Bertino, A. Provetti, and F. Salvetti.
UNIME.
Reasoning about RDF Statements with Default Rules.
Proceedings of the W3C Workshop on Rule Languages for Interoperability, 2005.

161
P. Burek and R. Grabos.
UNILEIPZIG.
Dually Structured Concepts in the Semantic Web: Answer Set Programming Approach.
Proceedings of the 2nd European Semantic Web Conference (ESWC), 2005.

162
J. Tiihonen, T. Soininen, I. Niemelä, and R. Sulonen.
HUT.
A Practical Tool for Mass-Customising Configurable Products.
Proceedings of the 14th International Conference on Engineering Design (ICED), 2003.

163

J. Tiihonen, T. Soininen, I. Niemelä, and R. Sulonen.
HUT.
Empirical Testing of a Weight Constraint Rule Based Configurator.
Proceedings of the ECAI Configuration Workshop, 2002.

164
T. Syrjänen.
HUT.
Version Spaces and Rule-Based Configuration Management.
Working Notes of the IJCAI Workshop on Configuration, 2001.

165
T. Soininen, I. Niemelä, J. Tiihonen, and R. Sulonen.
HUT.
Representing Configuration Knowledge with Weight Constraint Rules.
Proceedings of the AAAI Spring Symposium on Answer Set Programming, 2001.

166
T. Syrjänen.
HUT.
Optimizing Configurations.
Proceedings of the ECAI Workshop on Configuration, 2000.

167
E. Erdem and M. Wong.
TUWIEN.
Rectilinear Steiner Tree Construction Using Answer Set Programming.
Proceedings of the 20th International Conference on Logic Programming (ICLP), 2004.

168
F. Buccafurri and G. Caminiti.
UNIRC.
A Social Semantics for Multi-Agent Systems.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

169
O. Cliffe, M. De Vos, and J. Padget.
BATH.
Specifying and Analysing Agent-based social institutions using Answer Set Programming.
Technical Report CSBU-2005-04, 2005.

170
G.Ianni, F. Ricca, F. Calimeri, V. Lio, and S. Galizia.
UNICAL.
An Agent System Reasoning about the Web and the User.
Proceedings of the 13th international conference on World Wide Web (WWW), 2004.

171
S. Costantini and A. Tocchio.
UNIVAQ.
Communication and Trust in the DALI Logic Programming Agent-Oriented Language.
Intelligenza Artificiale, 2005.

172
S. Costantini and A. Tocchio.
UNIVAQ.
Planning Experiments in the DALI Logic Programming Language.
Proceedings of the 4th International Workshop on Computational Logic in Multi-Agent Systems.

173
S. Perri, F. Scarcello, and N. Leone.
UNICAL.
Abductive Logic Programs with Penalization: Semantics, Complexity and Implementation.
Theory and Practice of Logic Programming, 2005.

174
S. Odintsov and D. Pearce.
URJC.
Routley Semantics for Answer Sets.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

175
R. Grabos.
UNILEIPZIG.
Answer Set Programming and Combinatorial Voting.
Dagstuhl Seminar on Nonmonotonic Reasoning, Answer Set Programming and Constraints, 2005.

176
D. R. Brooks, E. Erdem, J. W. Minett, and D. Ringe.

TUWIEN.
Character-Based Cladistics and Answer Set Programming.
Proceedings of the 7th International Symposium on Practical Aspects of Declarative Languages, 2005.

177
E. Erdem, V. Lifschitz, L. Nakhleh, and D. Ringe.
TUWIEN.
Reconstructing the Evolutionary History of Indo-European Languages Using Answer Set Programming.
Proceedings of the 5th International Symposium on Practical Aspects of Declarative Languages, 2003.

178
E. Erdem, V. Lifschitz, and D. Ringe.
TUWIEN.
Temporal Phylogenetic Networks and Logic Programming.
Theory and Practice of Logic Programming. To appear.

179
K. Konczak and R. Vogel.
UNIPOTSDAM.
Abduction and Preferences in Linguistics.
Proceedings ASP-05, 2005.

180
K. Konczak and R. Vogel.
UNIPOTSDAM.
Abduction and Preferences in Linguistics: Extended Abstract.
Proceedings of the 8th International Conference on Logic Programming and Non Monotonic Reasoning (LPNMR), 2005.

181
C. Cumbo, S. Iiritano, and P. Rullo.
UNICAL.
Reasoning-Based Knowledge Extraction for Text Classification.
Discovery Science, 2004.

182
C. Cumbo, S. Iiritano, and P. Rullo.
UNICAL.
OLEX - A Reasoning-Based Text Classifier.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

183
M. Ruffolo, N. Leone, D. Sacca, M. Manna, and A. Zavatto.
UNICAL.
Exploiting ASP for Semantic Information Extraction.
Proceedings ASP-05, 2005.

184
G. Ianni, B. Panetta, and F. Ricca.
TUWIEN, UNICAL.
Specification of Assessment-Test Criteria through ASP.
Proceedings ASP-05, 2005.

185
R. Otero.
UNICORUNA.
Action Description of Protein Folding in Answer Set Programming.
Dagstuhl Seminar on Nonmonotonic Reasoning, Answer Set Programming and Constraints, 2005.

186
A. Bösel, T. Linke, and T. Schaub.
UNIPOTSDAM.
Profiling Answer Set Programming: The Visualization Component of the noMoRe System.
Proceedings of the 9th European Conference on Artificial Intelligence (JELIA), 2004.

187
M. Brain and M. De Vos.
BATH.
Debugging Logic Programs under the Answer Set Semantics.
Proceedings ASP-05, 2005.

188
P. Giorgini, F. Massacci, and J. Mylopoulos.
UNITN.
Requirement Engineering meets Security: A Case Study on Modelling Secure Electronic Transactions by VISA and Mastercard.
Proceedings of the 22nd International Conference on Conceptual Modeling (ER), 2003.

189
P. Giorgini, F. Massacci, J. Mylopoulos, and N. Zannone.
UNITN.

Modeling Social and Individual Trust in Requirements Engineering Methodologies.
Proceedings of the 3rd International Conference on Trust Management (iTrust), 2005.

190
P. Giorgini, F. Massacci, J. Mylopoulos, A. Siena, and N. Zannone.
UNITN.
ST-Tool: A CASE Tool for Modeling and Analyzing Trust Requirements.
Proceedings of the 3rd International Conference on Trust Management (iTrust), 2005.

191
T. Eiter and A. Polleres.
TUWIEN.
Towards Automated Integration of Guess and Check Programs in Answer Set Programming: A Meta-Interpreter and Applications.
Theory and Practice of Logic Programming. To appear.

192
V. W. Marek and M. Truszczynski.
Stable Logic Programming - An Alternative Logic Programming Paradigm.
The Logic Programming Paradigm: A 25-Year Perspective. Springer-Verlag, 1999.

193
A. Rainer.
TUWIEN.
Web Service Composition under Answer Set Programming.
KI-Workshop "Planen, Scheduling und Konfigurieren, Entwerfenl" (PuK), 2005.

194
V. Lifschitz.
Action Languages, Answer Sets and Planning.
The Logic Programming Paradigm: A 25-Year Perspective. Springer-Verlag, 1999.