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Preface

This volume contains papers presented at the third international workshop on extensions of logic programming, which was held at the Dipartimento di Elettronica, Informatica e Sistemistica of the University of Bologna, February 26–28, 1992.

The two previous workshops were held at the University of Tübingen, Germany, in December 1989 and at the Swedish Institute of Computer Science (SICS) in Kista, Sweden, in January 1991. Proceedings of these previous meetings have been published as Vol. 475 (P. Schroeder-Heister, ed.) and Vol. 596 (L.-H. Eriksson, L. Hallnäs, P. Schroeder-Heister, eds.) respectively, in the Lecture Notes in Artificial Intelligence series.

The main goal of the workshop was to discuss extensions of logic programming towards the artificial intelligence and software engineering areas, providing an opportunity to demonstrate implemented systems.

The papers presented here cover both theoretical and practical aspects. Some papers investigate topics such as abductive reasoning and negation. Some works discuss how to enhance the expressive power of logic programming by introducing constraints, sets and integration with functional programming. Other papers deal with the structuring of knowledge into modules, taxonomies and objects with the aim of extending logic programming towards software engineering applications. A section is devoted to papers concentrating on proof theory and inspired by Gentzen-style sequent or natural deduction systems. Moreover, topics such as concurrency are considered to enhance the expressive power of logic languages. Finally, some papers mainly concern techniques for implementing some of these logic programming extensions.

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DEIS (Dipartimento di Elettronica, Informatica e Sistemistica);
AI*IA (Associazione Italiana per l'Intelligenza Artificiale);
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GULP (Gruppo Utenti e Ricercatori Logic Programming).

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Bologna, November 1992

Evelina Lamma, Paola Mello

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Negation

Constraints, Functions and Sets

Modules, Objects and Inheritance

Concurrency

Proof Theory

Implementation Issues