Parallel and Data Parallel Execution of Logic Programs

edited by

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Proceedings of the post-ICLP'94 workshop W6 on
Parallel and Data Parallel Execution of Logic Programs
S. Margherita Ligure, Italy
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Abstract

Proceedings of the post-ICLP'94 workshop on Parallel and Data Parallel Execution of Logic Programs, held in S. Margherita Ligure, Friday 17 June. The proceedings consist of nine extended abstracts, ranging from theoretical to practical aspects and tools. About half of the papers specifically address data parallel execution of logic programs.

Contents

Preliminary program

Friday June 17, 14.00 – 19.00, Room "Tigullio 1".

14.00 – 16.00: SESSION 1

- Opening.
- O. Michel and J.-L. Giavitto. Design and Implementation of a Declarative Data-Parallel Language
- A. K. Bansal. Towards a Formal Computation Model of Associative Logic Programming
- G. Succi, G. A. Marino and G. Colla. Modelling the Connection Machine 2 as an Emulator of Subset-Based Declarative Languages
- D. A. Smith. Modeling Backtracking, Disjunctive Constraints, and Control/Data Or-Parallelism
- Discussion

16.00 - 16.30: COFFEE-BREAK

16.30 - 19.00: SESSION 2

- M. Carro and M. Hermenegildo. A Note on Data-Parallelism and (And-Parallel) Prolog.
- E. Pontelli, G. Gupta and M. Hermenegildo. &ACE: the And-parallel Component of ACE (A Progress Report on ACE)
- B. Demoen and G. Maris. A Comparison of Some Schemes for Translating Logic to C
- T. DongXing, E. Pontelli, G. Gupta and M. Carro. Last Parallel Call Optimization and Fast Backtracking in And-parallel Logic Programming Systems
- M. J. Fernandez, M. Carro and M. Hermenegildo. IDRA (IDeal Resource Allocation): A Tool for Computing Ideal Speedups
- Discussion

Introduction

This collection of articles constitutes the proceedings of a half-day workshop, following ICLP '94.

Its aim was to bring together researchers on parallel and data parallel execution of logic programs, to present and discuss interesting new developments. The program contained nine presentations, based on the extended abstracts in this collection.

The workshop focused on language constructs, implementation technology, program analysis and practical experiences of declarative programming languages on parallel computers. In the topic of the workshop, there was an emphasis on data parallel computation (not restricted to SIMD computation) and other massively parallel computation models.

In recent years data parallel programming has spread from the realm of SIMD computers and is now also a common programming model employed on MIMD computers. This is sometimes referred to as SPMD computation. It is the hope of the organizers of the workshop that communication between researchers focusing on data parallel computation and researchers pursuing other forms of parallel computation can lead to systems that exploit more than one kind of parallelism.

Organizers

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