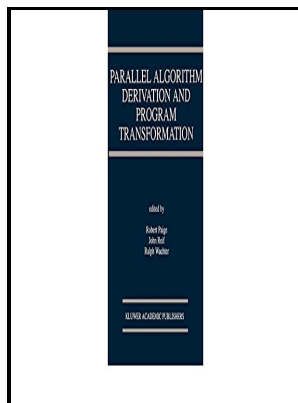# Parallel algorithm derivation and program transformation

Kluwer Academic - CiteSeerX — Deriving Efficient Parallel Implementations of Algorithms Operating on General Sparse Matrices using Automatic Program Transformation

Description: -

-
Parallel algorithms
Parallel programming (Computer science)Parallel algorithm derivation and program transformation
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SECS 231
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;Parallel algorithm derivation and program transformation
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Tags: #From #transformations #to #methodology #in #parallel #program #development: #A #case #study

From transformations to methodology in parallel program development: A case study

The aim of the workshop was to bring together computer scientists in transformational programming and parallel algorithm design in order to encourage a sharing of ideas tha This book contains selected papers from the ONR Workshop on Parallel Algorithm Design and Program Transformation that took place at New York University, Courant Institute, from Aug.

CiteSeerX — A Case Study in Parallel Program Derivation: the Heat Equation Algorithm

Particular emphasis is on the Observation that a careful choice of suitable Operations on abstract data structures and a thorough investigation of their algebraic properties can reduce substantial parts of the development activities to pure algebraic calculation. Keywords: Program Transformation and Program Derivation, Automatic Parallelization and Mapping, Sparse Matrices, Functional Programming. The parallel target implementation is parameterized for an arbitrary number of processors; for the particular number, the target program is both time and cost-optimal.

Parallel Algorithm Derivation and Program Transformation

We show how efficient implementations can be derived from highlevel functional specifications of numerical algorithms using automatic program transformation. Each submitted paper was refereed by participants from the Workshop.

From transformations to methodology in parallel program development: A case study

This paper reports results of a case study on the systematic use of BMF in the process of parallel program development.

Parallel algorithm derivation and program transformation (1993 edition)

The aim of the workshop was to bring together computer scientists in transformational programming and parallel algorithm design in order to

encourage a sharing of ideas that might benefit both communities. The workshop was sponsored by the Office of Naval Research under grant number N00014-90-J-1421. Benefits of donating When you donate a physical book to the Internet Archive, your book will enjoy: Wikipedia citation Copy and paste this code into your Wikipedia page.

CiteSeerX — A Case Study in Parallel Program Derivation: the Heat Equation Algorithm

The textbook specifier emphasizes clarity and ignores the detail of how an algorithm may be executed efficiently; the implementer will often sacrifice clarity in order to achieve efficient execution.

Parallel algorithm derivation and program transformation (1993 edition)

The final decision on publication was made by the editors. It was hoped that exposurt: to algorithm design methods developed within the algorithm community would stimulate progress in software development for parallel architectures within the transformational community.

Parallel Algorithm Derivation and Program Transformation

The development process is based on formal transformations; design decisions concerning data partitioning, processor interconnections, etc. We emphasize the automatic tailoring of implementations for manipulation of sparse data sets. This paper deals with a case study in the formal derivation of data-parallel algorithms by means of program transformations.

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