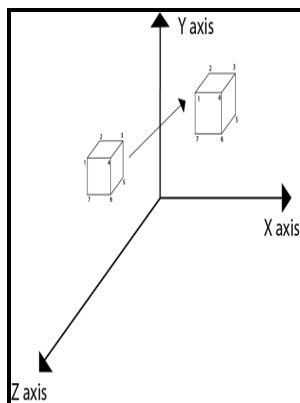# Parallel algorithm derivation and program transformation

Kluwer Academic - [PDF] Transformational development of data

Description: -

-
Parallel algorithms
Parallel programming (Computer science)Parallel algorithm derivation and program transformation

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SECS 231
The Kluwer international series in engineering and computer science
;Parallel algorithm derivation and program transformation
Notes: Includes bibliographical references and index.
This edition was published in 1993

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

Parallel algorithm derivation and program transformation (1993 edition)

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

We show how efficient implementations can be derived from highlevel functional specifications of numerical algorithms using automatic program transformation. We develop a parallel program for polynomial multiplication, starting with a straight-forward mathematical specification and arriving at the target processor topology together with a program for each processor of it. There were several motivations for holding the workshop and for publishing papers contributed by its participants.

[PDF] Transformational development of data

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.

Parallel Algorithm Derivation and Program Transformation

Execution times are reported for a conjugate gradient algorithm. Transformational programming and parallel computation are two emerging fields that may ultimately depend on each other for success.

Parallel algorithm derivation and program transformation (1993 edition)

It was also hoped that exposure to syntax directed methods and pragmatic programming concerns developed within the transformational community would encourage more realistic theoretical models of parallel architectures and more systematic and algebraic approaches to parallel

algorithm design within the algorithm community.

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

All attendees were invited to submit a paper for publication in the book. There were 44 attendees, 28 presentations, and 5 system demonstrations. Abstract We investigate the application of functional specification and program transformation in a practical setting using a simple case study: the derivation of a parallel program for solving the heat equation.

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