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Titolo	Data Structures and Efficient Algorithms [[electronic resource]] : Final Report on the DFG Special Joint Initiative / / edited by Burkhard Monien, Thomas Ottmann
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Edizione	[1st ed. 1992.]
Descrizione fisica	1 online resource (IX, 395 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 594
Disciplina	006.6
Soggetti	Computers Computer programming Architecture, Computer Algorithms Computer graphics Data structures (Computer science) Theory of Computation Programming Techniques Computer System Implementation Algorithm Analysis and Problem Complexity Computer Graphics Data Structures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Resemblance and symmetries of geometric patterns -- Selected topics from computational geometry, data structures and motion planning -- Processing of hierarchically defined graphs and graph families -- The combination of spatial access methods and computational geometry in geographic database systems -- A flexible and extensible index manager for spatial database systems -- The performance of object decomposition techniques for spatial query processing -- Distributed image synthesis with breadth-first ray tracing and the ray-z-buffer -- Restricted orientation computational geometry -- Monotonous

Bisector* Trees — a tool for efficient partitioning of complex scenes of geometric objects -- Learning convex sets under uniform distribution -- Spatial access structures for geometric databases -- On spanning trees with low crossing numbers -- High performance universal hashing, with applications to shared memory simulations -- Distributed game tree search on a massively parallel system -- Balanced strategies for routing on meshes -- Complexity of Boolean functions on PRAMs - Lower bound techniques -- Enumerative vs. genetic optimization two parallel algorithms for the bin packing problem -- Area efficient methods to increase the reliability of circuits.

Sommario/riassunto

Algorithms are a central concept in computer science. The German Science Foundation (DFG) started a special joint initiative on data structures and efficient algorithms in 1986 with the aim of encouraging collaborative research on algorithms. For a period of five years about a dozen projects were funded with an emphasis on algorithms and data structures for geometric problems, on the one hand, and parallel and distributed algorithms, on the other. This volume contains 18 papers that are intended to give an impression of the achievements of this joint research initiative. The first group of papers addresses research on fundamental data structures, computational geometry, graph algorithms, computer graphics, and spatial databases. The second group of papers centers on the following problems: the design of parallel architectures and routing strategies, simulation of parallel machines, and the design of distributed algorithms for solving difficult problems.