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Soggetti	Computer programming Artificial intelligence Architecture, Computer Computers Algorithms Computer logic Programming Techniques Artificial Intelligence Computer System Implementation Computation by Abstract Devices Algorithm Analysis and Problem Complexity Logics and Meanings of Programs
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Invited Lectures -- Synthesizing State-Based Object Systems from LSC Specifications -- Applications of Finite-State Transducers in Natural Language Processing -- Technical Contributions -- Fast Implementations of Automata Computations -- Regularly Extended Two-Way Nondeterministic Tree Automata -- Glushkov Construction for Multiplicities -- Implicit Structures to Implement NFA’s from Regular Expressions -- New Finite Automaton Constructions Based on Canonical Derivatives -- Experiments with Automata Compression -- Computing Raster Images from Grid Picture Grammars -- A Basis for

Looping Extensions to Discriminating-Reverse Parsing -- Automata for Pro-V Topologies -- Reachability and Safety in Queue Systems -- Generalizing the Discrete Timed Automaton -- Factorization of Ambiguous Finite-State Transducers -- MONA Implementation Secrets -- Cursors -- An Automaton Model of User-Controlled Navigation on the Web -- Direct Construction of Minimal Acyclic Subsequential Transducers -- Generic ?-Removal Algorithm for Weighted Automata -- An O(n2) Algorithm for Constructing Minimal Cover Automata for Finite Languages -- Unary Language Concatenation and Its State Complexity -- Implementation of a Strategy Improvement Algorithm for Finite-State Parity Games -- State Complexity and Jacobsthal's Function -- A Package for the Implementation of Block Codes as Finite Automata -- Regional Least-Cost Error Repair -- The Parameterized Complexity of Intersection and Composition Operations on Sets of Finite-State Automata -- Directly Constructing Minimal DFAs: Combining Two Algorithms by Brzozowski -- The MERLin Environment Applied to ?-NFAs -- Abstracts -- Visual Exploration of Generation Algorithms for Finite Automata on the Web -- TREEBAG -- Word Random Access Compression -- Extended Sequentialization of Transducers -- Lessons from INR in the Specification of Transductions -- Part-of-Speech Tagging with Two Sequential Transducers -- Solving Complex Problems Efficiently with Adaptive Automata.

Sommario/riassunto

The Fifth International Conference on Implementation and Application of - tomata (CIAA 2000) was held at the University of Western Ontario in London, Ontario, Canada on July 24-25, 2000. This conference series was formerly called the International Workshop on Implementing Automata (WIA) This volume of the Lecture Notes in Computer Science series contains all the papers that were presented at CIAA 2000, and also the abstracts of the poster papers that were displayed during the conference. The conference addressed issues in automata application and implementation. The topics of the papers presented at this conference ranged from automata applications in software engineering, natural language and speech recognition, and image processing, to new representations and algorithms for efficient implementation of automata and related structures. Automata theory is one of the oldest areas in computer science. Research in automata theory has always been motivated by its applications since its early stages of development. In the 1960s and 1970s, automata research was motivated heavily by problems arising from compiler construction, circuit design, string matching, etc. In recent years, many new applications have been found in various areas of computer science as well as in other disciplines. Examples of the new applications include statecharts in object-oriented modeling, nite transducers in natural language processing, and nondeterministic nite-state models in communication protocols. Many of the new applications do not and cannot simply apply the existing models and algorithms in automata theory to their problems.