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Nota di contenuto	Invited Papers -- Automata-Theoretic Techniques for Analyzing Infinite-State Systems -- Enumerating Regular Expressions and Their Languages -- Contributed Papers -- A General Weighted Grammar Library -- On the Complexity of Hopcroft's State Minimization Algorithm -- Implementation of Catalytic P Systems -- Code Selection by Tree Series Transducers -- Some Non-semi-decidability Problems for Linear and Deterministic Context-Free Languages -- Brute Force Determinization of NFAs by Means of State Covers -- Computing the Follow Automaton of an Expression -- Viral Gene Compression: Complexity and Verification -- Concatenation State Machines and Simple Functions -- FIRE Station: An Environment for Manipulating Finite Automata and Regular Expression Views -- Finding Finite Automata That Certify Termination of String Rewriting -- Linear Encoding Scheme for Weighted Finite Automata -- The Generalization

of Generalized Automata: Expression Automata -- An Automata Approach to Match Gapped Sequence Tags Against Protein Database -- State Complexity of Concatenation and Complementation of Regular Languages -- Minimal Unambiguous NFA -- Substitutions, Trajectories and Noisy Channels -- State Complexity and the Monoid of Transformations of a Finite Set -- An Application of Quantum Finite Automata to Interactive Proof Systems (Extended Abstract) -- Time and Space Efficient Algorithms for Constrained Sequence Alignment -- Stochastic Context-Free Graph Grammars for Glycoprotein Modelling -- Parametric Weighted Finite Automata for Figure Drawing -- Regional Finite-State Error Repair -- Approximating Dependency Grammars Through Intersection of Regular Languages -- On the Equivalence-Checking Problem for a Model of Programs Related With Multi-tape Automata -- Poster Papers -- Tight Bounds for NFA to DFCA Transformations for Binary Alphabets -- Simulating the Process of Gene Assembly in Ciliates -- A BDD-Like Implementation of an Automata Package -- Approximation to the Smallest Regular Expression for a Given Regular Language -- Algebraic Hierarchical Decomposition of Finite State Automata: Comparison of Implementations for Krohn-Rhodes Theory -- Does Hausdorff Dimension Measure Texture Complexity? -- Combining Regular Expressions with (Near-)Optimal Brzozowski Automata -- From Automata to Semilinear Sets: A Logical Solution for Sets (\cdot, \cdot) -- Myhill-Nerode Theorem for Sequential Transducers over Unique GCD-Monoids -- Minimalizations of NFA Using the Universal Automaton -- Two-Dimensional Pattern Matching by Two-Dimensional Online Tessellation Automata -- Size Reduction of Multitape Automata -- Testability of Oracle Automata -- Magic Numbers for Symmetric Difference NFAs.

Sommario/riassunto

This volume of Lecture Notes in Computer Science contains the revised versions of the papers presented at the 9th International Conference on Implementation and Application of Automata, CIAA 2004. Also included are the extended abstracts of the posters accepted to the conference. The conference was held at Queen's University in Kingston, Ontario, Canada on July 22–24, 2004. As for its predecessors, the theme of CIAA 2004 was the implementation of automata and grammars of all types and their application in other fields. The topics of the papers presented at the conference range from applications of automata in natural language and speech processing to protein sequencing and gene compression, and from state complexity and new algorithms for automata operations to applications of quantum finite automata. The 25 regular papers and 14 poster papers were selected from 62 submissions to the conference. Each submitted paper was evaluated by at least three Program Committee members, with the help of external referees. Based on the referee reports, the paper “Substitutions, Trajectories and Noisy Channels” by L. Kari, S. Konstantinidis and P. Sosík was chosen as the winner of the CIAA 2004 Best Paper Award. The award is sponsored by the University of California at Santa Barbara. The authors of the papers presented here come from the following countries and regions: Austria, Canada, Czech Republic, Finland, France, Germany, Hong Kong, Netherlands, Portugal, Russia, Slovakia, South Africa, Spain, UK, and USA.
