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Soggetti	Computer science Algorithms Artificial intelligence Computer science—Mathematics Bioinformatics Theory of Computation Artificial Intelligence Mathematics of Computing
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Nota di contenuto	Opening Lecture -- Randomness – A Computational Complexity Perspective -- Invited Papers -- Cracks in the Defenses: Scouting Out Approaches on Circuit Lower Bounds -- On Formal Equivalence Verification of Hardware -- Twelve Problems in Proof Complexity -- Manifestation and Exploitation of Invariants in Bioinformatics -- Simple Stochastic Games, Mean Payoff Games, Parity Games -- Theory Track -- Topological Semantics of Justification Logic -- A Logspace Algorithm for Partial 2-Tree Canonization -- A Triple Correspondence in Canonical Calculi: Strong Cut-Elimination, Coherence, and Non-deterministic Semantics -- Computing Longest Common Substrings Via Suffix Arrays -- Logic and Rational Languages of Words Indexed by Linear Orderings -- Complexity of the Bollobás-Riordan Polynomial -- A Complete Characterization of Nash-Solvability of Bimatrix Games in

Terms of the Exclusion of Certain 2x2 Subgames -- Synchronization of Grammars -- Lower Bounds for Depth-2 and Depth-3 Boolean Circuits with Arbitrary Gates -- A Semantic Proof of Polytime Soundness of Light Affine Logic -- On Subword Complexity of Morphic Sequences -- Comparing Universal Covers in Polynomial Time -- S4LP and Local Realizability -- On the Expressive Power of Permanents and Perfect Matchings of Matrices of Bounded Pathwidth/Cliquewidth (Extended Abstract) -- The Most General Conservation Law for a Cellular Automaton -- Lower Bounds on Frequency Estimation of Data Streams (Extended Abstract) -- From Invariants to Canonization in Parallel -- Self-referentiality of Justified Knowledge -- On the Complexity of Membership and Counting in Height-Deterministic Pushdown Automata -- Public Key Encryption and Encryption Emulation Attacks -- A Uniform Lower Bound on Weights of Perceptrons -- Lambek Grammars with One Division Are Decidable in Polynomial Time -- Cryptanalysis of Stickle's Key Exchange Scheme -- Combinatorial Complexity of Regular Languages -- On Sequences with Non-learnable Subsequences -- Algorithms for Multiterminal Cuts -- Two Sources Are Better Than One for Increasing the Kolmogorov Complexity of Infinite Sequences -- Applications and Technology Track -- Multilayer Neuro-fuzzy Network for Short Term Electric Load Forecasting -- Invariant Generation for P-Solvable Loops with Assignments -- Using Coloured Petri Nets to Model and Verify Telecommunications Systems -- Additive Preconditioning for Matrix Computations -- Network as a Computer: Ranking Paths to Find Flows -- A Unified Categorical Approach for Attributed Graph Rewriting.

Sommario/riassunto

This book constitutes the refereed proceedings of the Third International Computer Science Symposium in Russia, CSR 2008, held in Moscow, Russia, June 7-12, 2008. The 33 revised papers presented together with 5 invited papers and one opening lecture were carefully reviewed and selected from 103 submissions. All major areas in computer science are addressed. The theory track deals with algorithms, protocols, and data structures; complexity and cryptography; formal languages, automata and their applications to computer science; computational models and concepts; proof theory and applications of logic to computer science. The application part comprises programming and languages; computer architecture and hardware design; symbolic computing and numerical applications; application software; artificial intelligence and robotics.
