Foreword

Conference Organization

The Linear-Array Conjecture of Communication Complexity is False p. 1
Testing of the Long Code and Hardness for Clique p. 11
The Space Complexity of Approximating the Frequency Moments p. 20
Deterministic Restrictions in Circuit Complexity p. 30
Fast Algorithms for k-Shredders and k-Node Connectivity Augmentation p. 37
Approximating s-t Minimum Cuts in \(O(n^{\text{superscript 2}})\) time p. 47
Minimum Cuts in Near-Linear Time p. 56
Deterministic \(O(nm)\) Time Edge-Splitting in Undirected Graphs p. 64
Evaluation may be Easier than Generation p. 74
The PL Hierarchy Collapses p. 84
Convergence Complexity of Optimistic Rate Based Flow Control Algorithms p. 89
Generating Hard Instances of Lattice Problems p. 99
Translational Polygon Containment and Minimal Enclosure Using Linear Programming Based Restriction p. 109
Pushing Disks Together - The Continuous-Motion Case p. 119
Learning Sat-k-DNF Formulas from Membership Queries p. 126
Towards the Learnability of DNF Formulae p. 131
Noise-tolerant Learning Near the Information-theoretic Bound p. 141
Noise-tolerant Distribution-Free Learning of General Geometric Concepts p. 151
The Complexity of Matrix Rank and Feasible Systems of Linear Equations p. 161
Computing Roadmaps of Semi-algebraic Sets p. 168
Using the Groebner Basis Algorithm to find Proofs of Unsatisfiability p. 174
Sparsity Considerations in Dixon Resultants p. 184
Efficient 3-d Range Searching in External Memory p. 192
Purely Functional Representations of Catenable Sorted Lists p. 202
A Fast Quantum Mechanical Algorithm for Database Search p. 212
Constructing Evolutionary Trees in the Presence of Polymorphic Characters p. 220
Efficient Algorithms for Inverting Evolution p. 230
Modular Competitiveness for Distributed Algorithms p. 237
Communication-Efficient Parallel Sorting p. 247
Automatic Methods for Hiding Latency in High Bandwidth Networks p. 257
An \(O(n \log n)\)-Size Fault-Tolerant Sorting Network p. 266
On Extracting Randomness From Weak Random Sources p. 276
Randomness-Optimal Sampling, Extractors, and Constructive Leader Election p. 286
Generating Random Spanning Trees More Quickly than the Cover Time p. 296
Towards an Analysis of Local Optimization Algorithms p. 304
A Threshold of \(\ln n\) for Approximating Set Cover p. 314
Fast Algorithms for Parametric Scheduling come from Extensions to Parametric Maximum Flow p. 319
Towards a Syntactic Characterization of PTAS p. 329
Efficient Approximation Algorithms Semidefinite Programs Arising from MAX-CUT and COLORING p. 338
Dynamic Deflection Routing and Arrays p. 348
Distributed Packet Switching in Arbitrary Networks p. 366
Adversarial Queueing Theory p. 376
Computing Betti Numbers via Combinatorial Laplacians p. 386
Embedding Graphs in an Arbitrary Surface in Linear Time p. 392
Algorithms for Manifolds and Simplicial Complexes in Euclidean 3-Space p. 398
On Bounding the Betti Numbers and Computing the Euler Characteristic of Semi-algebraic Sets p. 408
Approximability and Nonapproximability Results for Minimizing Total Flow Time on a Single Machine p. 418
How Good is the Goemans-Williamson MAX-CUT Algorithm? p. 427
A Tight Analysis of the Greedy Algorithm for Set Cover p. 435
A Constant-factor Approximation Algorithm for the k-MST Problem p. 442
Reconstructing a Three-Dimensional Model with Arbitrary Errors p. 449
On the Boosting Ability of Top-Down Decision Tree Learning Algorithms p. 459
Robot Navigation with Range Queries p. 469
Correlated Pseudorandomness and the Complexity of Private Computations p. 479
Witness-Based Cryptographic Program Checking and Robust Function Sharing p. 499
Non-Expansive Hashing p. 509
Making Commitments in the Face of Uncertainty: How to Pick a Winner Almost Every Time p. 519
Lower Bounds for On-line Graph Problems with Application to On-Line Circuit and Optical Routing p. 531
Characterizing Linear Size Circuits in Terms of Privacy p. 541
Nondeterministic Communication with a Limited Number of Advice Bits p. 551
Public vs. Private Coin Flips in One Round Communication Games p. 561
Efficiently Four-coloring Planar Graphs p. 571
Faster Isomorphism Testing of Strongly Regular Graphs p. 576
Node-Disjoint Paths on the Mesh and a New Trade-off in VLSI Layout p. 585
Modular Coloring Formulas Are Hard for Cutting Planes Proofs p. 595
Extremal Bipartite Graphs and Superpolynomial Lower Bounds for Manotone Span Programs p. 603
A Lower Bound for Randomized Algebraic Decision Trees p. 612
Lower Bounds for Noisy Boolean Decision Trees p. 620
Adaptive Zero Knowledge and Computational Equivocation p. 629
Adaptively Secure Multi-party Computation p. 639
On Relationships between Statistical Zero-Knowledge Proofs p. 649
Large-Scale Assembly of DNA Strings and Space-Efficient Construction of Suffix Trees p. 659

Table of Contents provided by Blackwell's Book Services and R.R. Bowker. Used with permission.