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Advances in Artificial Intelligence Canadian Society for Computational Studies of Intelligence. Conference 2003-05-27 This book constitutes the refereed proceedings of the 16th Conference of the Canadian Society for Computational Studies of Intelligence, AI 2003, held in Halifax, Canada in June 2003. The 30 revised full papers and 24 revised short papers presented were carefully reviewed and selected from 106 submissions. The papers are organized in topical sections on knowledge representation, search, constraint satisfaction, machine learning and data mining, AI and Web applications, reasoning under uncertainty, agents and multi-agent systems, AI and bioinformatics, and AI and e-commerce.

Handbook on Modelling for Discrete Optimization Gautam M. Appa 2006-08-18 This book aims to demonstrate and detail the pervasive nature of Discrete Optimization. The handbook couples the difficult, critical-thinking aspects of mathematical modeling with the hot area of discrete optimization. It is done with an academic treatment outlining the state-of-the-art for researchers across the domains of the Computer Science, Math Programming, Applied Mathematics, Engineering, and Operations Research. The book utilizes the tools of mathematical modeling, optimization, and integer programming to solve a broad range of modern problems.

Mathematical Foundations of Computer Science 2005 Joanna Jedrzejowicz 2005-08-17 This book constitutes the refereed proceedings of the 30th International Symposium on Mathematical Foundations of Computer Science, MFCS 2005, held in Gdansk, Poland in August/September 2005. The 62 revised full papers presented together with full papers or abstracts of 7 invited talks were carefully reviewed and selected from 137 submissions. All current aspects in theoretical computer science are addressed, ranging from quantum computing, approximation, automata, circuits, scheduling, games, languages, discrete mathematics, combinatorial optimization, graph theory, networking, algorithms, and complexity to programming theory, formal methods, and mathematical logic.

Propositional Logic Hans Kleine B☐ ning 1999-08-28 Algorithmic approach to logic, with new and classical results, and applications to VLSI, databases etc.

Stochastic Local Search - Methods, Models, Applications Holger Hoos 1999 To date, stochastic local search (SLS) algorithms are among the standard methods for solving hard combinatorial problems from various areas of Artificial Intelligence and Operations Research. Some of the most successful and powerful algorithms for prominent problems like SAT, CSP, or TSP are based on stochastic local search. This work investigates various aspects of SLS algorithms; in particular, it focusses on modelling these algorithms, empirically evaluating their performance, characterising and improving their behaviour, and understanding the factors which influence their efficiency. These issues are studied for the SAT problem in propositional logic as a primary application domain. SAT has the advantage of being conceptually very simple, which facilitates the design, implementation, and presentation of algorithms as well as their analysis. However, most of the methodology generalises easily to other combinatorial problems like CSP. This Ph.D. thesis won the Best Dissertation Award 1999 (Dissertationspreis) of the German Informatics Society (Gesellschaft fur Informatik).

DNA Computing Max H. Garzon 2008-02-08 This book constitutes the thoroughly refereed postproceedings of the 13th International Meeting on DNA Computing, DNA 13, held in Memphis, TN, USA, June 4-8, 2007. The 15 revised full papers and 5 short demos together with 10 poster abstracts presented were carefully selected during two rounds of reviewing and improvement from an initial total of 62 submissions. The papers are organized in topical sections on Self Assembly, Biomolecular Machines and Automata, Codes for DNA Memories and Computing, Novel Techniques for DNA Computing in Vitro, Novel Techniques for DNA Computing in Silico as well as Models and Languages.

Foundations of Intelligent Systems Aijun An 2008-05-08 This volume contains the papers selected for presentation at the 17th Inter- tional Symposium on Methodologies for Intelligent Systems (ISMIS 2008), held in York University, Toronto, Canada, May 21–23, 2008. ISMIS is a conference series started in 1986. Held twice every three years, ISMIS provides an inter- tional forum for exchanging scienti?c research and technological achievements in building intelligent systems. Its goal is to achieve a vibrant interchange - tween researchers and practitioners on fundamental and advanced issues related to intelligent systems. ISMIS 2008 featured a selection of latest research work and applications from the following areas related to intelligent systems: active media human–computer interaction, autonomic and evolutionary computation, digital libraries, intel- gent agent technology, intelligent information retrieval, intelligent information systems, intelligent language processing, knowledge representation and integ- tion, knowledge discovery and data mining, knowledge visualization, logic for arti?cial intelligence, soft computing, Web intelligence, and Web services. - searchers and developers from 29 countries submitted more than 100 full - pers to the conference. Each paper was rigorously reviewed by three committee members and external reviewers. Out of these submissions, 40% were selected as regular papers and 22% as short papers. ISMIS 2008 also featured three plenary talks given by John Mylopoulos, Jiawei Han and Michael Lowry. They spoke on their recent research in age- oriented software engineering, information network mining, and intelligent so- ware engineering tools, respectively.

Combinatorial Optimization and Applications Zaixin Lu 2015-12-08 This book constitutes the refereed proceedings of the 9th International Conference on Combinatorial Optimization and Applications, COCOA 2015, held in Houston, TX, USA, in December 2015. The 59 full papers included in the book were carefully reviewed and selected from 125 submissions. Topics covered include classic combinatorial optimization; geometric optimization; network optimization; applied optimization; complexity and game; and optimization in graphs.

New Optimization Algorithms in Physics Alexander K. Hartmann 2006-03-06 Many physicists are not aware of the fact that they can solve their problems by applying optimization algorithms. Since the number of such algorithms is steadily increasing, many new algorithms have not been presented comprehensively until now. This presentation of recently developed algorithms applied in physics, including demonstrations of how they work and related results, aims to encourage their application, and as such the algorithms selected cover concepts and methods from statistical physics to optimization problems emerging in theoretical computer science.

Integer Programming John K. Karlof 2005-09-22 Integer Programming: Theory and Practice contains refereed articles that explore both theoretical aspects of integer programming as well as major applications. This volume begins with a description of new constructive and iterative search methods for solving the Boolean optimization problem (BOOP). Following a review of recent developments on convergent Lagrangian techniques that use objective level-cut and domain-cut methods to solve separable nonlinear integer-programming problems, the book discusses the generalized assignment problem (GAP). The final theoretical chapter analyzes the use of decomposition methods to obtain bounds on the optimal value of solutions to integer linear-programming problems. The first application article contains models and solution algorithms for the rescheduling of airlines following the temporary closure of airports. The next chapters deal with the determination of an optimal mix of chartered and self-owned vessels needed to transport a product. The book then presents an application of integer programming that involves the capture, storage, and transmission of large quantities of data collected during testing scenarios involving military applications related to vehicles, medicine, equipment, missiles, and aircraft. The next article develops an integer linear-programming model to determine the assortment of products that must be carried by stores within a retail chain to maximize profit, and the final article contains an overview of noncommercial software tools for the solution of mixed-integer linear programs (MILP). The authors purposefully include applications and theory that are usually not found in contributed books in

order to appeal to a wide variety of researchers and practitioners.

Stochastic Local Search Holger H. Hoos 2004-09-28 Stochastic local search (SLS) algorithms are among the most prominent and successful techniques for solving computationally difficult problems in many areas of computer science and operations research, including propositional satisfiability, constraint satisfaction, routing, and scheduling. SLS algorithms have also become increasingly popular for solving challenging combinatorial problems in many application areas, such as e-commerce and bioinformatics. Hoos and Stützle offer the first systematic and unified treatment of SLS algorithms. In this groundbreaking new book, they examine the general concepts and specific instances of SLS algorithms and carefully consider their development, analysis and application. The discussion focuses on the most successful SLS methods and explores their underlying principles, properties, and features. This book gives hands-on experience with some of the most widely used search techniques, and provides readers with the necessary understanding and skills to use this powerful tool. Provides the first unified view of the field Offers an extensive review of state-of-the-art stochastic local search algorithms and their applications Presents and applies an advanced empirical methodology for analyzing the behavior of SLS algorithms A companion website offers lecture slides as well as source code and Java applets for exploring and demonstrating SLS algorithms

Engineering Stochastic Local Search Algorithms. Designing, Implementing and Analyzing Effective Heuristics Thomas Stützle 2007-08-22 This volume constitutes the refereed proceedings of the International Workshop on Engineering Stochastic Local Search Algorithms. Inside the volume, readers will find twelve full papers as well as nine short papers. Topics include methodological developments, behavior of SLS algorithms, search space analysis, algorithm performance, tuning procedures, AI/OR techniques, and dynamic behavior.

Automated Reasoning Rajeev Gore 2003-06-29 This book constitutes the refereed proceedings of the First International Joint Conference on Automated Reasoning, IJCAR 2001, held in Siena, Italy, in June 2001. The 37 research papers and 19 system descriptions presented together with three invited contributions were carefully reviewed and selected from a total of 112 submissions. The book offers topical sections on description, modal, and temporal logics; saturation based theorem proving, applications, and data structures; logic programming and nonmonotonic reasoning; propositional satisfiability and quantified Boolean logic; logical frameworks, higher-order logic, and interactive theorem proving; equational theorem proving and term rewriting; tableau, sequent, and natural deduction calculi and proof theory; automata, specification, verification, and logics of programs; and nonclassical logics.

Black Box Optimization, Machine Learning, and No-Free Lunch Theorems Panos M. Pardalos 2021-05-27 This edited volume illustrates the connections between machine learning techniques, black box optimization, and no-free lunch theorems. Each of the thirteen contributions focuses on the commonality and interdisciplinary concepts as well as the fundamentals needed to fully comprehend the impact of individual applications and problems. Current theoretical, algorithmic, and practical methods used are provided to stimulate a new effort towards innovative and efficient solutions. The book is intended for beginners who wish to achieve a broad overview of optimization methods and also for more experienced researchers as well as researchers in mathematics, optimization, operations research, quantitative logistics, data analysis, and statistics, who will benefit from access to a quick reference to key topics and methods. The coverage ranges from mathematically rigorous methods to heuristic and evolutionary approaches in an attempt to equip the reader with different viewpoints of the same problem.

Local Search for Planning and Scheduling Alexander Nareyek 2003-06-30 This book constitutes the thoroughly refereed post-proceedings of the International Workshop on Local Search for Planning and Scheduling, held at a satellite workshop of ECAI 2000 in Berlin, Germany in August 2000.The nine revised full papers presented together with an invited survey on meta-heuristics have gone through two rounds of reviewing and improvement. The papers are organized in topical sections on combinatorial optimization, planning with resources, and related approaches.

Practical Design Verification Dhiraj K. Pradhan 2009-06-11 Improve design efficiency and reduce costs with this practical guide to formal and simulation-based functional verification. Giving you a theoretical and practical understanding of the key issues involved, expert authors including Wayne Wolf and Dan Gajski explain both formal techniques (model checking, equivalence checking) and simulation-based techniques (coverage metrics, test generation). You get insights into practical issues including hardware verification languages (HVLs) and system-level debugging. The foundations of formal and simulation-based techniques are covered too, as are more recent research advances including transaction-level modeling and assertion-based verification, plus the theoretical underpinnings of verification, including the use of decision diagrams and Boolean satisfiability (SAT).

Principles and Practice of Constraint Programming - CP 2003 Ireland) Cp 200 (2003 Kinsale 2003-09-24 This book constitutes the refereed proceedings of the 9th International Conference on Principles and Practice of Constraint Programming, CP 2003, held in Kinsale, Ireland in September/October 2003. The 48 revised full papers and 34 revised short papers presented together with 4 invited papers and 40 abstracts of contributions to the CP 2003 doctoral program were carefully reviewed and selected from 181 submissions. A wealth of recent results in computing with constraints is addressed ranging from foundational and methodological issues to solving real-world problems in a variety of application fields.

Advances in Informatics Yannis Manolopoulos 2003-04-22 This book constitutes the thoroughly refereed post-proceedings of the 8th Panhellenic Conference on Informatics, PCI 2001, held in Nicosia, Cyprus in November 2001. The

31 revised full papers presented were carefully selected and improved during two months of reviewing from 104 conference papers. The papers cover the areas of databases, data mining and intelligent systems, e-learning, human computer interaction, image processing, networks and systems, software and languages, and theoretical computer science.

Metaheuristic Optimization via Memory and Evolution Cesar Rego 2006-03-30 Tabu Search (TS) and, more recently, Scatter Search (SS) have proved highly effective in solving a wide range of optimization problems, and have had a variety of applications in industry, science, and government. The goal of Metaheuristic Optimization via Memory and Evolution: Tabu Search and Scatter Search is to report original research on algorithms and applications of tabu search, scatter search or both, as well as variations and extensions having "adaptive memory programming" as a primary focus. Individual chapters identify useful new implementations or new ways to integrate and apply the principles of TS and SS, or that prove new theoretical results, or describe the successful application of these methods to real world problems.

Boolean Models and Methods in Mathematics, Computer Science, and Engineering Yves Crama 2010-06-28 A collection of papers written by prominent experts that examine a variety of advanced topics related to Boolean functions and expressions.

Handbook of Combinatorial Optimization Ding-Zhu Du 2013-12-01 Combinatorial (or discrete) optimization is one of the most active fields in the interface of operations research, computer science, and applied math ematics. Combinatorial optimization problems arise in various applications, including communications network design, VLSI design, machine vision, air line crew scheduling, corporate planning, computer-aided design and man ufacturing, database query design, cellular telephone frequency assignment, constraint directed reasoning, and computational biology. Furthermore, combinatorial optimization problems occur in many diverse areas such as linear and integer programming, graph theory, artificial intelligence, and number theory. All these problems, when formulated mathematically as the minimization or maximization of a certain function defined on some domain, have a commonality of discreteness. Historically, combinatorial optimization starts with linear programming. Linear programming has an entire range of important applications including production planning and distribution, personnel assignment, finance, alloca tion of economic resources, circuit simulation, and control systems. Leonid Kantorovich and Tjalling Koopmans received the Nobel Prize (1975) for their work on the optimal allocation of resources. Two important discover ies, the ellipsoid method (1979) and interior point approaches (1984) both provide polynomial time algorithms for linear programming. These algo rithms have had a profound effect in combinatorial optimization. Many polynomial-time solvable combinatorial optimization problems are special cases of linear programming (e.g. matching and maximum flow). In addi tion, linear programming relaxations are often the basis for many approxi mation algorithms for solving NP-hard problems (e.g. dual heuristics).

Satisfiability Problem Dingzhu Du 1997-01-01 The satisfiability (SAT) problem is central in mathematical logic, computing theory, and many industrial applications. There has been a strong relationship between the theory, the algorithms, and the applications of the SAT problem. This book aims to bring together work by the best theorists, algorithmists, and practitioners working on the sat problem and on industrial applications, as well as to enhance the interaction between the three research groups. The book features the applications of theoretical/algorithmic results to practical problems and presents practical examples for theoretical/algoritmic study. Major topics covered in the book include practical and industial SAT problems and benchmarks, significant case studies and applications of the SAT problem and SAT algorithms, new algorithms and improved techniques for satisfiability testing, specific data structures and implementation details of the SAT algorithms, and the theoretical study of the SAT problem and SAT algorithms.

Experimental and Efficient Algorithms Sotiris E. Nikoletseas 2005-05-03 This book constitutes the refereed proceedings of the 4th International Workshop on Experimental and Efficient Algorithms, WEA 2005, held in Santorini Island, Greece in May 2005. The 47 revised full papers and 7 revised short papers presented together with extended abstracts of 3 invited talks were carefully reviewed and selected from 176 submissions. The book is devoted to the design, analysis, implementation, experimental evaluation, and engineering of efficient algorithms. Among the application areas addressed are most fields applying advanced algorithmic techniques, such as combinatorial optimization, approximation, graph theory, discrete mathematics, scheduling, searching, sorting, string matching, coding, networking, data mining, data analysis, etc.

Theory and Applications of Satisfiability Testing – SAT 2008 Hans Kleine Büning 2008-04-25 This volume contains the papers presented at the 11th International Conference on Theory and Applications of Satis?ability Testing (SAT 2008). The series of International Conferences on Theory and Applications of S- is?ability Testing (SAT) has evolved from a ?rst workshop on SAT in 1996 to an annual international conference which is a platform for researchers studying various aspects of the propositional satis?ability problem and its applications. In the past, the SAT conference venue alternated between Europe and North America. For the ?rst time, the conference venue was in Asia, more precisely at the Zhudao Guest House, near Sun Yat-Sen University in Guangzhou, P. R. China. Many hard combinatorial problems can be encoded into SAT. Therefore - provementsonheuristics onthe practicalside,as wellastheoreticalinsightsinto SAT apply to a large range of real-world problems. More speci?cally, many - portant

practical veri?cation problems can be rephrased as SAT problems. This applies to veri?cation problems in hardware and software. Thus SAT is bec- ing one of the most important core technologies to verify secure and dependable systems. The topics of the conference span practical and theoretical research on SAT and its applications and include but are not limited to proof systems, proof complexity, search algorithms, heuristics, analysis of algorithms, hard instances, randomized formulae, problem encodings, industrial applications, solvers, s- pli?ers, tools, case studies, and empirical results. SAT is interpreted in a rather broad sense: besides propositional satis?ability, it includes, for example, the - main of quanti?ed Boolean formulae (QBF) and satis?ability modulo theories (SMT).

Das Erf?llbarkeitsproblem SAT Sch? ning, Uwe 2012-01-01 SAT (f? r satisfiability) ist der Name des bekanntesten NP-vollst? ndigen Problems, des Erf? llbarkeitsproblems der Aussagenlogik. Gegeben ist hierbei eine Formel mit Boole'schen Variablen und Verkn? pfungen und gesucht wird eine „L? sung", also eine Wertezuweisung an die Variablen, so dass die Formel wahr wird. Dieses algorithmische Problem ist Dreh- und Angelpunkt f? r alle NP-Vollst? ndigkeitsnachweise und wurde schon als „Drosophila" der Algorithmik bezeichnet. F? r SAT werden seit einiger Zeit leistungsstarke Algorithmen entwickelt, die in der Lage sind, Formeln mit hunderten oder tausenden von Variablen zu l? sen. Bei schwierigen Formeln mit nur wenigen L? sungen kommt dies der sprichw? rtlichen Suche nach der Nadel im Heuhaufen gleich. Wie derartige Algorithmen arbeiten und wie die zugeh? rigen logischen Kalk? le und heuristischen Suchmethoden eingesetzt werden, wird in diesem Buch – die erste deutschsprachige Ver? ffentlichung zum Thema – eingehend und fundiert erkl? rt. Der Titel erscheint als Band 1 der Reihe Mathematik f? r Anwendungen Diese Textbuchreihe soll zeigen, dass Mathematik mehr ist als nur eine Zusammenstellung von Theoremen und Definitionen – tats? chlich er? ffnet die Mathematik die M? glichkeit, anwendungsnahe Probleme der realen Welt zu l? sen. Gedacht als Grundlage f? r Vorlesungen und Seminare in den Ingenieurwissenschaften und der Informatik, zielt jeder Band darauf ab, ein bestimmtes Thema kompakt und didaktisch durchdacht zu erfassen und dabei den Balanceakt zwischen formal-korrekter und informal-verst? ndlicher Darstellung zu vollbringen. Nicht nur Studierende, sondern auch Praktiker aus der Industrie sowie Lehrer und Sch? ler in mathematischen F? chern werden diese Reihe zu sch? tzen wissen. Mathematics for Applications This series of textbooks is designed to demonstrate how mathematics is more than just a collection of theorems and definitions – it is a powerful means to solve real-world problems! Intended for use in lecture courses and seminars in any field of engineering or computer science, each volume aims for a compact and didactically sound presentation of its subject matter, balancing the demands of formal correctness with the need for general accessibility. Not only students, but also those working in technical professions, teachers of high school mathematics and even their students should find these books valuable.

Algorithms and Data Structures Frank Dehne 2015-07-27 This book constitutes the refereed proceedings of the 14th Algorithms and Data Structures Symposium, WADS 2015, held in Victoria, BC, Canada, August 2015. The 54 revised full papers presented in this volume were carefully reviewed and selected from 148 submissions. The Algorithms and Data Structures Symposium - WADS (formerly Workshop on Algorithms And Data Structures), which alternates with the Scandinavian Workshop on Algorithm Theory, is intended as a forum for researchers in the area of design and analysis of algorithms and data structures. WADS includes papers presenting original research on algorithms and data structures in all areas, including bioinformatics, combinatorics, computational geometry, databases, graphics, and parallel and distributed computing.

Graph-Theoretic Concepts in Computer Science Dieter Kratsch 2005-12-06 This book constitutes the thoroughly refereed post-proceedings of the 31st International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2005, held in Metz, France in June 2005. The 38 revised full papers presented together with 2 invited papers were carefully selected from 125 submissions. The papers provide a wealth of new results for various classes of graphs, graph computations, graph algorithms, and graph-theoretical applications in various fields. The workshop aims at uniting theory and practice by demonstrating how graph-theoretic concepts can be applied to various areas in Computer Science, or by extracting new problems from applications. The goal is to present recent research results and to identify and explore directions of future research.

Automata, Languages and Programming Josep Diaz 2004-07-09 The 31st International Colloquium on Automata, Languages, and Programming (ICALP 2004) was held from July 12 to July 16 in Turku, Finland. This volume contains all contributed papers presented at ICALP 2004, together with the invitedlecturesbyPhilippeFlajolet(INRIA), RobertHarper(CarnegieMellon), Monika Henzinger (Google), Martin Hofmann (Munich), Alexander Razborov (Princeton and Moscow), Wojciech Rytter (Warsaw and NJIT), and Mihalis Yannakakis (Stanford). ICALP is a series of annual conferences of the European Association for Theoretical Computer Science (EATCS). The?rst ICALP took place in 1972 and the ICALP program currently consists of track A (focusing on algorithms, automata, complexity, and cryptography) and track B (focusing on databases, logics, semantics, and principles of programming). Inresponsetothecallforpapers, theprogramcommitteereceived379papers, 272 for track A and 107 for track B. This is the highest number of submitted papersinthehistoryofICALPconferences. Theprogramcommitteesselected97 papersforinclusionintothescienti?cprogram. Theprogramcommitteeefortrack A met on March 27 and 28 in Barcelona and selected 69 papers from track A. TheprogramcommitteefortrackBselected28papersfromtrackBinthecourse of an electronic discussion lasting for two weeks in the second half of March. The selections were based on originality, quality, and relevance to theor- ical computer science. We wish to thank all authors who submitted extended abstracts for consideration, the program committee for its hard work, and all referees who assisted the program committee in the evaluation process.

Satisfiability Problem Dingzhu Du 1997-01-01 The satisfiability (SAT) problem is central in mathematical logic, computing theory, and many industrial applications. There has been a strong relationship between the theory, the algorithms, and the applications of the SAT problem. This book aims to bring together work by the best theorists, algorithmists, and practitioners working on the SAT problem and on industrial applications, as well as to enhance the interaction between the three research groups. The book features the applications of theoretical/algorithmic results to practical problems and presents practical examples for theoretical/algoritmic study. Major topics covered in the book include practical and industial SAT problems and benchmarks, significant case studies and applications of the SAT problem and SAT algorithms, new algorithms and improved techniques for satisfiability testing, specific data structures and implementation details of the SAT algorithms, and the theoretical study of the SAT problem and SAT algorithms.

Automata, Languages and Programming Ugo Montanari 2003-08-06 This book constitutes the refereed proceedings of the 27th International Colloquium on Automata, Languages and Programming, ICALP 2000, held in Geneva, Switzerland in July 2000. The 69 revised full papers presented together with nine invited contributions were carefully reviewed and selected from a total of 196 extended abstracts submitted for the two tracks on algorithms, automata, complexity, and games and on logic, semantics, and programming theory. All in all, the volume presents an unique snapshot of the state-of-the-art in theoretical computer science.

SAT2000 Ian Gent 2000

The Satisfiability Problem Sch? ning, Uwe 2013-01-01 The satisfiability problem of propositional logic, SAT for short, is the first algorithmic problem that was shown to be NP-complete, and is the cornerstone of virtually all NP-completeness proofs. The SAT problem consists of deciding whether a given Boolean formula has a "solution", in the sense of an assignment to the variables making the entire formula to evaluate to true. Over the last few years very powerful algorithms have been devised being able to solve SAT problems with hundreds of thousands of variables. For difficult (or randomly generated) formulas these algorithms can be compared to the proverbial search for the needle in a haystack. This book explains how such algorithms work, for example, by exploiting the structure of the SAT problem with an appropriate logical calculus, like resolution. But also algorithms based on "physical" principles are considered. I was delighted to see how nicely the authors were able to cover such a variety of topics with elegance. I cannot resist saying that the introduction to SAT on page 9 is absolutely the best I ever expect to see in any book! Donald E. Knuth, Stanford University This book gives lucid descriptions of algorithms for SAT that are better than you would think! A must-read for anyone in theory. William Gasarch, University of Maryland It was a wonderful surprise to see a deep mathematical analysis of important algorithms for SAT presented so clearly and concisely. This is an excellent introductory book for studying the foundations of constraint satisfaction. Osamu Watanabe, Tokyo Institute of Technology

IJCAI-97 International Joint Conferences on Artificial Intelligence 1997

SOFSEM 2013: Theory and Practice of Computer Science Peter van Emde Boas 2013-01-12 This book constitutes the refereed proceedings of the 39th International Conference on Current Trends in Theory and Practice of Computer Science, SOFSEM 2013, held in ? pindler? v Ml? n, Czech Republic, in January 2013. The 37 revised full papers presented in this volume were carefully reviewed and selected from 98 submissions. The book also contains 10 invited talks, 5 of which are in full-paper length. The contributions are organized in topical sections named: foundations of computer science; software and Web engineering; data, information, and knowledge engineering; and social computing and human factors.

Aussois 2001 Michael J? nger 2003-02-25 This book is dedicated to Jack Edmonds in appreciation of his ground breaking work that laid the foundations for a broad variety of subsequent results achieved in combinatorial optimization. The main part consists of 13 revised full papers on current topics in combinatorial optimization, presented at Aussois 2001, the Fifth Aussois Workshop on Combinatorial Optimization, March 5-9, 2001, and dedicated to Jack Edmonds. Additional highlights in this book are an account of an Aussois 2001 special session dedicated to Jack Edmonds including a speech given by William R. Pulleyblank as well as newly typeset versions of three up-to-now hardly accessible classical papers: - Submodular Functions, Matroids, and Certain Polyhedra by Jack Edmonds - Matching: A Well-Solved Class of Integer Linear Programs by Jack Edmonds and Ellis L. Johnson - Theoretical Improvements in Algorithmic Efficiency for Network Flow Problems by Jack Edmonds and Richard M. Karp.

Algorithmic Applications in Management Nimrod Megiddo 2005-05-24 The papers in this volume were presented at the 1st International Conference on Algorithmic Applications in Management (AAIM 2005), held June 22 –25, 2005 in Xian, China.

Satisfiability Problem NSF Science and Technology Center in Discrete Mathematics and Theoretical Computer Science Staff 1997 The satisfiability (SAT) problem is central in mathematical logic, computing theory, and many industrial applications. There has been a strong relationship between the theory, the algorithms, and the applications of the SAT problem. This book aims to bring together work by the best theorists, algorithmists, and practitioners working on the SAT problem and on industrial applications, as well as to enhance the interaction between the three research groups. The book features the application of theoretical/algorithmic results to practical problems and presents practical

problems for theoretical/al.

Parallel Problem Solving from Nature - PPSN XII Carlos Coello Coello 2012-08-27 The two volume set LNCS 7491 and 7492 constitutes the refereed proceedings of the 12th International Conference on Parallel Problem Solving from Nature, PPSN 2012, held in Taormina, Sicily, Italy, in September 2012. The total of 105 revised full papers were carefully reviewed and selected from 226 submissions. The meeting began with 6 workshops which offered an ideal opportunity to explore specific topics in evolutionary computation, bio-inspired computing and metaheuristics. PPSN 2012 also included 8 tutorials. The papers are organized in topical sections on evolutionary computation; machine learning, classifier systems, image processing; experimental analysis, encoding, EDA, GP; multiobjective optimization; swarm intelligence, collective behavior, coevolution and robotics; memetic algorithms, hybridized techniques, meta and hyperheuristics; and applications.

Boolean Functions Yves Crama 2011-05-16 Written by prominent experts in the field, this monograph provides the first comprehensive, unified presentation of the structural, algorithmic and applied aspects of the theory of Boolean functions. The book focuses on algebraic representations of Boolean functions, especially disjunctive and conjunctive normal form representations. This framework looks at the fundamental elements of the theory (Boolean equations and satisfiability problems, prime implicants and associated short representations, dualization), an in-depth study of special classes of Boolean functions (quadratic, Horn, shellable, regular, threshold, read-once functions and their characterization by functional equations) and two fruitful generalizations of the concept of Boolean functions (partially defined functions and pseudo-Boolean functions). Several topics are presented here in book form for the first time. Because of the depth and breadth and its emphasis on algorithms and applications, this monograph will have special appeal for researchers and graduate students in discrete mathematics, operations research, computer science, engineering and economics.

International Conference on Computer Applications 2012 :: Volume 02 Kokula Krishna Hari K