

200 Acm Problems Solution Source Code Thinkdiff Net

This book discusses the problems and feasible remediation of fluoride contamination in groundwater. The book investigates applications of various carbons derived from bio-mass and bio-polymers. It also inquires into surface modified carbons that use inorganic ions to help remove excess fluoride ions in drinking water and wastewater effluents. The compliance of kinetic and isotherm models with fluoride sorption is covered, and the suggested mechanisms of defluoridation by surface modified carbon materials is described. The pervasiveness of and universal access to modern Information and Communication Technologies has enabled a popular new paradigm in the dissemination of information, art, and ideas. Now, instead of relying on a finite number of content providers to control the flow of information, users can generate and disseminate their own content for a wider audience. Open Source Technology: Concepts, Methodologies, Tools, and Applications investigates examples and methodologies in user-generated and freely-accessible content available through electronic and online media. With applications in education, government, entertainment, and more, the technologies explored in these volumes will provide a comprehensive reference for web designers, software developers, and practitioners in a wide variety of fields and disciplines. Finite Element Solution of Boundary Value Problems: Theory and Computation provides an introduction to both the theoretical and computational aspects of the finite element method for solving boundary value problems for partial differential equations. This book is composed of seven chapters and begins with surveys of the two kinds of preconditioning techniques, one based on the symmetric successive overrelaxation iterative method for solving a system of equations and a form of incomplete factorization. The subsequent chapters deal with the concepts from functional analysis of boundary value problems. These topics are followed by discussions of the Ritz method, which minimizes the quadratic functional associated with a given boundary value problem over some finite-dimensional subspace of the original space of functions. Other chapters are devoted to direct methods, including Gaussian elimination and related methods, for solving a system of linear algebraic equations. The final chapter continues the analysis of preconditioned conjugate gradient methods, concentrating on applications to finite element problems. This chapter also looks into the techniques for reducing rounding errors in the iterative solution of finite element equations. This book will be of value to advanced undergraduates and graduates in the areas of numerical analysis, mathematics, and computer science, as well as for theoretically inclined workers in engineering and the physical sciences.

Advanced Lectures

Spectroscopy of Low Temperature Plasma

Modeling and Simulation

SOFSEM'99: Theory and Practice of Informatics

5th International Symposium, PADL 2003, New Orleans, LA, USA, January 13-14, 2003, Proceedings

Resurgence, Confluence, and Continuing Impact

Symposium held in Miami, Florida, January 22-24, 2006.This symposium is jointly sponsored by the ACM Special Interest Group on Algorithms and Computation Theory and the SIAM Activity Group on Discrete Mathematics.Contents Preface; Acknowledgments; Session 1A: Confronting Hardness Using a Hybrid Approach, Virginia Vassilevska, Ryan Williams, and Shan Leung Maverick Woo; A New Approach to Proving Upper Bounds for MAX-2-SAT, Arist Kojevnikov and Alexander S. Kulikov, Measure and Conquer: A Simple O(20.288n) Independent Set Algorithm, Fedor V. Fomin, Fabrizio Grandoni, and Dieter Kratsch; A Polynomial Algorithm to Find an Independent Set of Maximum Weight in a Fork-Free Graph, Vadim V. Lozin and Martin Milanic; The Knuth-Yao Quadrangle-Inequality Speedup is a Consequence of Total-Monotonicity, Wolfgang W. Bein, Mordecai J. Golin, Larry L. Larmore, and Yan Zhang; Session 1B: Local Versus Global Properties of Metric Spaces, Sanjeev Arora, László Lovász, Ilan Newman, Yuval Rabani, Yuri Rabinovich, and Santosh Vempala; Directed Metrics and Directed Graph Partitioning Problems, Moses Charikar, Konstantin Makarychev, and Yuri Makarychev; Improved Embeddings of Graph Metrics into Random Trees, Kedar Dhamdhere, Anupam Gupta, and Harald Räcke; Small Hop-diameter Sparse Spanners for Doubling Metrics, T-H. Hubert Chan and Anupam Gupta; Metric Cotype, Manor Mendel and Assaf Naor; Session 1C: On Nash Equilibria for a Network Creation Game, Susanne Albers, Stefan Eilts, Eyal Even-Dar, Yishay Mansour, and Liam Roditty; Approximating Unique Games, Anupam Gupta and Kunal Talwar; Computing Sequential Equilibria for Two-Player Games, Peter Bro Miltersen and Troels Bjerre Sørensen; A Deterministic Subexponential Algorithm for Solving Parity Games, Marcin Jurdzinski, Mike Paterson, and Uri Zwick; Finding Nucleolus of Flow Game, Xiaotie Deng, Qizhi Fang, and Xiaoxun Sun, Session 2: Invited Plenary Abstract: Predicting the “Unpredictable”, Rakesh V. Vohra, Northwestern University; Session 3A: A Near-Tight Approximation Lower Bound and Algorithm for the Kidnapped Robot Problem, Sven Koenig, Apurva Mudgal, and Craig Tovey; An Asymptotic Approximation Algorithm for 3D-Strip Packing, Klaus Jansen and Roberto Solis-Oba; Facility Location with Hierarchical Facility Costs, Zoya Svitkina and Éva Tardos; Combination Can Be Hard: Approximability of the Unique Coverage Problem, Erik D. Demaine, Uriel Feige, Mohammad Taghi Hajiaghayi, and Mohammad R. Salavatipour; Computing Steiner Minimum Trees in Hamming Metric, Ernst Althaus and Rouven Naujoks; Session 3B: Robust Shape Fitting via Peeling and Grating Coresets, Pankaj K. Agarwal, Sariel Har-Peled, and Hai Yu; Tightening Non-Simple Paths and Cycles on Surfaces, Éric Colin de Verdière and Jeff Erickson; Anisotropic Surface Meshing, Siu-Wing Cheng, Tamal K. Dey, Edgar A. Ramos, and Rephael Wenger; Simultaneous Diagonal Flips in Plane Triangulations, Prosenjit Bose, Jurek Czyzowicz, Zhicheng Gao, Pat Morin, and David R. Wood; Morphing Orthogonal Planar Graph Drawings, Anna Lubiw, Mark Petrick, and Michael Spriggs; Session 3C: Overhang, Mike Paterson and Uri Zwick; On the Capacity of Information Networks, Micah Adler, Nicholas J. A. Harvey, Kamal Jain, Robert Kleinberg, and April Rasala Lehman; Lower Bounds for Asymmetric Communication Channels and Distributed Source Coding, Micah Adler, Erik D. Demaine, Nicholas J. A. Harvey, and Mihai Patrascu; Self-Improving Algorithms, Nir Ailon, Bernard Chazelle, Seshadhri Chandur, and Ding Liu; Cake Cutting Really is Not a Piece of Cake, Jeff Edmonds and Kirk Pruhs; Session 4A: Testing Triangle-Freeness in General Graphs, Noga Alon, Tali Kaufman, Michael Krivelevich, and Dana Ron; Constraint Solving via Fractional Edge Covers, Martin Grohe and Daniel Marx; Testing Graph Isomorphism, Eldar Fischer and Arie Matsliah; Efficient Construction of Unit Circular-Arc Models, Min Chih Lin and Jayme L. Swarcfiter, On The Chromatic Number of Some Geometric Hypergraphs, Shakhar Smorodinsky; Session 4B: A Robust Maximum Completion Time Measure for Scheduling, Moses Charikar and Samir Khuller; Extra Unit-Speed Machines are Almost as Powerful as Speedy Machines for Competitive Flow Time Scheduling, Ho-Leung Chan, Tak-Wah Lam, and Kin-Shing Liu; Improved Approximation Algorithms for Broadcast Scheduling, Nikhil Bansal, Don Coppersmith, and Maxim Sviridenko; Distributed Selfish Load Balancing, Petra Berenbrink, Tom Friedetzky, Leslie Ann Goldberg, Paul Goldberg, Zengjing Hu, and Russell Martin; Scheduling Unit Tasks to Minimize the Number of Idle Periods: A Polynomial Time Algorithm for Offline Dynamic Power Management, Philippe Baptiste; Session 4C: Rank/Select Operations on Large Alphabets: A Tool for Text Indexing, Alexander Golynski, J. Ian Munro, and S. Srinivasa Rao; O(log log n)-Competitive Dynamic Binary Search Trees, Chengwen Chris Wang, Jonathan Derryberry, and Daniel Dominic Sleator; The Rainbow Skip Graph: A Fault-Tolerant Constant-Degree Distributed Data Structure, Michael T. Goodrich, Michael J. Nelson, and Jonathan Z. Sun; Design of Data Structures for Mergeable Trees, Loukas Georgiadis, Robert E. Tarjan, and Renato F. Werneck; Implicit Dictionaries with O(1) Modifications per Update and Fast Search, Gianni Franceschini and J. Ian Munro; Session 5A: Sampling Binary Contingency Tables with a Greedy Start, Ivona Bezáková, Nayantara Bhatnagar, and Eric Vigoda; Asymmetric Balanced Allocation with Simple Hash Functions, Philipp Woelfel; Balanced Allocation on Graphs, Krishnaram Kenthapadi and Rina Panigrahy; Superiority and Complexity of the Spaced Seeds, Ming Li, Bin Ma, and Louxin Zhang; Solving Random Satisfiable 3CNF Formulas in Expected Polynomial Time, Michael Krivelevich and Dan Vilenchik; Session 5B: Analysis of Incomplete Data and an Intrinsic-Dimension Helly Theorem, Jie Gao, Michael Langberg, and Leonard J. Schulman; Finding Large Sticks and Potatoes in Polygons, Olaf Hall-Holt, Matthew J. Katz, Piyush Kumar, Joseph S. B. Mitchell, and Arik Sityon; Randomized Incremental Construction of Three-Dimensional Convex Hulls and Planar Voronoi Diagrams, and Approximate Range Counting, Haim Kaplan and Micha Sharir; Vertical Ray Shooting and Computing Depth Orders for Fat Objects, Mark de Berg and Chris Gray; On the Number of Plane Graphs, Oswin Aichholzer, Thomas Hackl, Birgit Vogtenhuber, Clemens Huemer, Ferran Hurtado, and Hannes Krasser; Session 5C: All-Pairs Shortest Paths for Unweighted Undirected Graphs in o(mn) Time, Timothy M. Chan; An O(n log n) Algorithm for Maximum st-Flow in a Directed Planar Graph, Glencora Borradaile and Philip Klein; A Simple GAP-Canceling Algorithm for the Generalized Maximum Flow Problem, Mateo Restrepo and David P. Williamson; Four Point Conditions and Exponential Neighborhoods for Symmetric TSP, Vladimir Deineko, Bettina Klinz, and Gerhard J. Woeginger; Upper Degree-Constrained Partial Orientations, Harold N. Gabow; Session 7A: On the Tandem Duplication-Random Loss Model of Genome Rearrangement, Kamalika Chaudhuri, Kevin Chen, Radu Mihaescu, and Satish Rao; Reducing Tile Complexity for Self-Assembly Through Temperature Programming, Ming-Yang Kao and Robert Schweller; Cache-Oblivious String Dictionaries, Gerth Stølting Brodal and Rolf Fagerberg; Cache-Oblivious Dynamic Programming, Rezaul Alam Chowdhury and Vijaya Ramachandran; A Computational Study of External-Memory BFS Algorithms, Deepak Ajwani, Roman Dementiev, and Ulrich Meyer; Session 7B: Tight Approximation Algorithms for Maximum General Assignment Problems, Lisa Fleischer, Michel X. Goemans, Vahab S. Mirokni, and Maxim Sviridenko; Approximating the k-Multicut Problem, Daniel Golovin, Viswanath Nagarajan, and Mohit Singh; The Prize-Collecting Generalized Steiner Tree Problem Via A New Approach Of Primal-Dual Schema, Mohammad Taghi Hajiaghayi and Kamal Jain; 8/7-Approximation Algorithm for (1,2)-TSP, Piotr Berman and Marek Karpinski; Improved Lower and Upper Bounds for Universal TSP in Planar Metrics, Mohammad T. Hajiaghayi, Robert Kleinberg, and Tom Leighton; Session 7C: Leontief Economies Encode NonZero Sum Two-Player Games, B. Codenotti, A. Saberi, K. Varadarajan, and Y. Ye; Bottleneck Links, Variable Demand, and the Tragedy of the Commons, Richard Cole, Yevgeniy Dodis, and Tim Roughgarden; The Complexity of Quantitative Concurrent Parity Games, Krishnendu Chatterjee, Luca de Alfaro, and Thomas A. Henzinger; Equilibria for Economies with Production: Constant>Returns Technologies and Production Planning Constraints, Kamal Jain and Kasturi Varadarajan; Session 8A: Approximation Algorithms for Wavelet Transform Coding of Data Streams, Sudipto Guha and Boulos Harb; Simpler Algorithm for Estimating Frequency Moments of Data Streams, Lakshimath Bhuvanagiri, Sumit Ganguly, Deepanjan Kesh, and Chandan Saha; Trading Off Space for Passes in Graph Streaming Problems, Camil Demetrescu, Irene Finocchi, and Andrea Ribichini; Maintaining Significant Stream Statistics over Sliding Windows, L.K. Lee and H.F. Ting; Streaming and Sublinear Approximation of Entropy and Information Distances, Sudipto Guha, Andrew McGregor, and Suresh Venkatasubramanian; Session 8B: FPTAS for Mixed-Integer Polynomial Optimization with a Fixed Number of Variables, J. A. De Loera, R. Hemmecke, M. Köppe, and R. Weismantel; Linear Programming and Unique Sink Orientations, Bernd Gärtner and Ingo Schurr; Generating All Vertices of a Polyhedron is Hard, Leonid Khachiyan, Endre Boros, Konrad Borys, Khaled Elbassioni, and Vladimir Gurvich; A Semidefinite Programming Approach to Tensegrity Theory and Realizability of Graphs, Anthony Man-Cho So and Yinyu Ye; Ordering by Weighted Number of Wins Gives a Good Ranking for Weighted Tournaments, Don Coppersmith, Lisa Fleischer, and Atri Rudra; Session 8C: Weighted Isotonic Regression under L1 Norm, Stanislav Angelov, Boulos Harb, Sampath Kannan, and Li-San Wang; Oblivious String Embeddings and Edit Distance Approximations, Tugkan Batu, Funda Ergun, and Cenk Sahinalp0898716012\\This comprehensive book not only introduces the C and C++ programming languages but also shows how to use them in the numerical solution of partial differential equations (PDEs). It leads the reader through the entire solution process, from the original PDE, through the discretization stage, to the numerical solution of the resulting algebraic system. The well-debugged and tested code segments implement the numerical methods efficiently and transparently. Basic and advanced numerical methods are introduced and implemented easily and efficiently in a unified object-oriented approach.

Excessive levels of heavy metals can be introduced into the environment, for example, by industrial waste or fertilizers. Soil represents a major sink for heavy metals ions, which can then enter the food chain via plants or leaching into groundwater. In Heavy Metal Ions in the Environment, the author looks at where heavy metals ions come from, how they interact with the environment and how they can be removed from the environment - by a process known as remediation. This book serves as a valuable addition to an increasingly important field of study, which is, at present, served by a limited number of archival texts. Includes comprehensive coverage of heavy metal ions in the environment Is practical and easy to read Is suitable for students and researchers in environmental science and environmental or chemical engineering [Informatique].

A Joint Publication of the IEEE Communications Society, the IEEE Computer Society, and the ACM with Its Special Interest Group on Data Communication

Conference Record

Data Intensive Distributed Computing: Challenges and Solutions for Large-scale Information Management

ACM Conference on Computer and Communications Security

Quality of Information and Communications Technology

13th International Conference, QUATIC 2020, Faro, Portugal, September 9-11, 2020, Proceedings

This book constitutes the refereed proceedings of the 5th International Symposium on Practical Aspects of Declarative Languages, PADL 2003, held in New Orleans, LA, USA, in January 2003. The 23 revised full papers presented together with 3 invited contributions were carefully reviewed and selected from 57 submissions. All current aspects of declarative programming have been covered. The last decade has brought explosive growth in the technology for manufacturing integrated circuits. Integrated circuits with several hundred thousand transistors are now commonplace. This manufacturing capability, combined with the economic benefits of large electronic systems, is forcing a revolution in the design of these systems and providing a challenge to design. Modern circuits are too complex for an individual to comprehend completely. Managing tremendous complexity and automating the design process have become crucial issues. Two groups are interested in dealing with complexity and in developing algorithms to automate the design process. One group is composed of practitioners in computer-aided design of the circuit-design process. The second group is made up of computer scientists and mathematicians who are interested in the design and analysis of efficient combinatorial algorithms. These two groups have developed separate bodies of literature and, until recently, have had relatively little interaction. An obstacle to bringing these two groups together is the lack of both groups in the same context. There are many instances when a familiarity with the literature of the other group would be beneficial. Some practitioners could use known theoretical results to improve their "cut and try" heuristics. In other cases, theoreticians have published impractical or highly abstracted toy formulations, thinking that the latter are important. This new work is an introduction to the numerical solution of the initial value problem for a system of ordinary differential equations. The first three chapters are general in nature, and chapters 4 through 8 derive the basic numerical methods, prove their convergence, study their stability and consider how to implement them effectively. The book focuses on the methods, not on the theory. It them fully, uses examples throughout, and emphasizes practical problem-solving methods.

Proceedings of the ... ACM Workshop on Rapid Malcode

Finite Element Solution of Boundary Value Problems

June 6-10, 1994, San Diego, CA : Proceedings

Heavy Metals in the Environment: Origin, Interaction and Remediation

Concepts, Methodologies, Tools and Applications

7th International Conference on Informatics in Schools: Situation, Evolution, and Perspectives, ISSEP 2014, Istanbul, Turkey, September 22-25, 2014. Proceedings

"This book focuses on the challenges of distributed systems imposed by the data intensive applications, and on the different state-of-the-art solutions proposed to overcome these challenges"--Provided by publisher.

This book constitutes the refereed proceedings of the 7th International Conference on Informatics in Schools: Situation, Evolution, and Perspectives, ISSEP 2014, held in Istanbul, Turkey, in September 2014. The 13 full papers presented together with 2 keynotes were carefully reviewed and selected from 33 submissions. The focus of the conference was on following topics: Competence Science Education, Competence Measurement for Informatics, Emerging Technologies and Tools for Informatics, Teacher Education in Informatics, and Curriculum Issues.

This book constitutes the refereed proceedings of the 13th International Conference on the Quality of Information and Communications Technology, QUATIC 2020, held in Faro, Portugal*, in September 2020. The 27 full papers and 12 short papers were carefully reviewed and selected from 81 submissions. The papers are organized in topical sections: quality aspects in machine learning, AI and data analytics; evidence-based software quality engineering; human and artificial intelligences for software evolution; process modeling, improvement and assessment; software quality education and training; quality aspects in quantum computing; safety, security and privacy; ICT verification and validation; RE, MDD and agile. *The conference was held virtually due to the COVID-19 pandemic.

Undergraduate Announcement

Scientific Information Bulletin

Encyclopedia of Portal Technologies and Applications

26th Conference on Current Trends in Theory and Practice of Informatics, Milovy, Czech Republic, November 27 - December 4, 1999 Proceedings

Concepts, Methodologies, Tools, and Applications

Practical Aspects of Declarative Languages

This book introduces numerical issues that arise in linear algebra and its applications. It touches on a wide range of techniques, including direct and iterative methods, orthogonal factorizations, least squares, eigenproblems, and nonlinear equations. Detailed explanations on a wide range of topics from condition numbers to singular value decomposition are provided, as well as material on nonlinear and linear systems. Numerical examples, often based on discretizations of boundary-value problems, are used to illustrate concepts. Exercises with detailed solutions are provided at the end of the book, and supplementary material and updates are available online. This Classics edition is appropriate for junior and senior undergraduate students and beginning graduate students in courses such as advanced numerical analysis, special topics on numerical analysis, topics on data science, topics on numerical optimization, and topics on approximation theory.

This year the SOFSEM conference is coming back to Milovy in Moravia to th be held for the 26 time. Although born as a local Czechoslovak event 25 years ago SOFSEM did not miss the opportunity offered in 1989 by the newly found freedom in our part of Europe and has evolved into a full-fledged international conference. For all the changes, however, it has kept its generalist and multidisciplinary character. The track of invited talks, ranging from Trends in Theory to Software and Information Engineering, attest to this. Apart from the topics mentioned above, SOFSEM99 offers invited talks exploring core technologies, talks tracing the path from data to knowledge, and those describing a wide variety of applications. The rich collection of invited talks presents a non-traditional facet of SOFSEM: that of a winter school, in which IT researchers and professionals get an opportunity to see more of the large pasture of today's computing than just their favourite grazing corner. To facilitate this purpose the prominent researchers delivering invited talks usually start with a broad overview of the state of the art in a wider area and then gradually focus on their particular subject.

There are many distinct pleasures associated with computer programming. Craftsmanship has its quiet rewards, the satisfaction that comes from building a useful object and making it work. Excitement arrives with the flash of insight that cracks a previously intractable problem. The spiritual quest for elegance can turn the hacker into an artist. There are pleasures in parsimony, in squeezing the last drop of performance out of clever algorithms and tight coding.

The games, puzzles, and challenges of problems from international programming competitions are a great way to experience these pleasures while improving your algorithmic and coding skills. This book contains over 100 problems that have appeared in previous programming contests, along with discussions of the theory and ideas necessary to attack them. Instant online grading for all of these problems is available from two WWW robot judging sites. Combining this book with a judge gives an exciting new way to challenge and improve your programming skills. This book can be used for self-study, for teaching innovative courses in algorithms and programming, and in training for international competition. The problems in this book have been selected from over 1,000 programming problems at the Universidad de Valladolid online judge. The judge has ruled on well over one million submissions from 27,000 registered users around the world to date. We have taken only the best of the best, the most fun, exciting, and interesting problems available.

ACM SIGPLAN Notices

Electronic Services: Concepts, Methodologies, Tools and Applications

Principles of Distributed Database Systems

6th ACM Conference on Computer and Communications Security

Proceedings of 1997 ACM SIGMOD International Conference on Management of Data

Challenges and Solutions for Large-scale Information Management

This third edition of a classic textbook can be used to teach at the senior undergraduate and graduate levels. The material concentrates on fundamental theories as well as techniques and algorithms. The advent of the Internet and the World Wide Web, and, more recently, the emergence of cloud computing and streaming data applications, has forced a renewal of interest in distributed and parallel data management, while, at the same time, requiring a rethinking of some of the traditional techniques. This book covers the breadth and depth of this re-emerging field. The coverage consists of two parts. The first part discusses the fundamental principles of distributed data management and includes distribution design, data integration, distributed query processing and optimization, distributed transaction management, and replication. The second part focuses on more advanced topics and includes discussion of parallel database systems, distributed object management, peer-to-peer data management, web data management, data stream systems, and cloud computing. New in this Edition: • New chapters, covering database replication, database integration, multidatabase query processing, peer-to-peer data management, and web data management. • Coverage of emerging topics such as data streams and cloud computing

• Extensive revisions and updates based on years of class testing and feedback Ancillary teaching materials are available.

Information technology (IT) is widely understood to be the enabling technology of the 21st century. IT has transformed, and continues to transform, all aspects of our lives: commerce and finance, education, energy, health care, manufacturing, government, national security, transportation, communications, entertainment, science, and engineering. IT and its impact on the U.S. economyâ€™both directly (the IT sector itself) and indirectly (other sectors that are powered by advances in IT)â€™continue to grow in size and importance. ITâ€™s impacts on the U.S. economyâ€™both directly (the IT sector itself) and indirectly (other sectors that are powered by advances in IT)â€™continue to grow. IT enabled innovation and advances in IT products and services draw on a deep tradition of research and rely on sustained investment and a uniquely strong partnership in the United States among government, industry, and universities. Past returns on federal investments in IT research have been extraordinary for both U.S. society and the U.S. economy. This IT innovation ecosystem fuels a virtuous cycle of innovation with growing economic impact. Building on previous National Academies work, this report describes key features of the IT research ecosystem that fuel IT innovation and foster widespread and longstanding impact across the U.S. economy. In addition to presenting established computing research areas and industry sectors, it also considers emerging candidates in both categories.

Handbook of Differential Equations, Second Edition is a handy reference to many popular techniques for solving and approximating differential equations, including numerical methods and exact and approximate analytical methods. Topics covered range from transformations and constant coefficient linear equations to Picard iteration, along with conformal mappings and inverse scattering. Comprised of 192 chapters, this book begins with an introduction to transformations as well as general ideas about differential equations and how they are solved, together with the techniques needed to determine if a partial differential equation is well-posed or what the "natural" boundary conditions are. Subsequent sections focus on exact and approximate analytical solution techniques for differential equations, along with numerical methods for ordinary and partial differential equations.

This monograph is intended for students taking courses in differential equations at either the undergraduate or graduate level, and should also be useful for practicing engineers or scientists who solve differential equations on an occasional basis.

Proceedings of the 2001 ACM CIKM

Proceedings of the Seventeenth Annual ACM-SIAM Symposium on Discrete Algorithms

Tenth International Conference on Information and Knowledge Management : November 5-10, 2001, Atlanta, Georgia, USA

Numerical Solution of Ordinary Differential Equations

Social & behavioral sciences, human services & management

IEEE/ACM Transactions on Networking

Algorithms that have to process large data sets have to take into account that the cost of memory access depends on where the data is stored. Traditional algorithm design is based on the von Neumann model where accesses to memory have uniform cost. Actual machines increasingly deviate from this model: while waiting for memory access, nowadays, microprocessors can in principle execute 1000 additions of registers; for hard disk access this factor can reach six orders of magnitude. The 16 coherent chapters in this monograph-like tutorial book introduce and survey algorithmic techniques used to achieve high performance on memory hierarchies; emphasis is placed on methods interesting from a theoretical as well as important from a practical point of view.

Semiconductor quantum optics is on the verge of moving from the lab to real world applications. When stepping from basic research to new technologies, device engineers will need new simulation tools for the design and optimization of quantum light sources, which combine classical device physics with cavity quantum electrodynamics. This thesis aims to provide a holistic description of single-photon emitting diodes by bridging the gap between microscopic and macroscopic modeling approaches. The central result is a novel hybrid quantum-classical model system that self-consistently couples semi-classical carrier transport theory with open quantum many-body systems. This allows for a comprehensive description of quantum light emitting diodes on multiple scales: It enables the calculation of the quantum optical figures of merit together with the simulation of the spatially resolved current flow in complex, multi-dimensional semiconductor device geometries out of one box. The hybrid system is shown to be consistent with fundamental laws of (non-)equilibrium thermodynamics and is demonstrated by numerical simulations of realistic devices.

Written by a distinguished plasma scientist and experienced author, this up-to-date work comprehensively covers current methods and new developments and techniques, including non-equilibrium atomic and molecular plasma states, as well as such new applications as gas lasers. Containing numerous appendices with reference data indispensable for plasma spectroscopy, such as statistical weights and partition sums and diatomic molecules. For plasmaphysicists, spectroscopists, materials scientists and physical chemists. Appendix H is only available online.

Proceedings of the ... Annual ACM Symposium on Principles of Distributed Computing

Electrically Driven Quantum Dot Based Single-Photon Sources

A Monthly Publication of the Special Interest Group on Programming Languages

Open Source Technology: Concepts, Methodologies, Tools, and Applications

Programming Challenges

31st ACM/IEEE Design Automation Conference

With the increasing reliance on digital means to transact goods that are retail and communication based, e-services continue to develop as key applications for business, finance, industry and innovation.Electronic Services: Concepts, Methodologies, Tools and Applications is an all-inclusive research collection covering the latest studies on the consumption, delivery and availability of e-services. This multi-volume book contains over 100 articles, making it an essential reference for the evolving e-services discipline.

Machine Learning, Big Data, and IoT for Medical Informatics focuses on the latest techniques adopted in the field of medical informatics. In medical informatics, machine learning, big data, and IOT-based techniques play a significant role in disease diagnosis and its prediction. In the medical field, the structure of data is equally important for accurate predictive analytics due to heterogeneity of data such as ECG data, X-ray data, and image data. Thus, this book focuses on the usability of machine learning, big data, and IOT-based techniques in handling structured and unstructured data. It also emphasizes on the privacy preservation techniques of medical data. This volume can be used as a reference book for scientists, researchers, practitioners, and academicians working in the field of intelligent medical informatics. In addition, it can also be used as a reference book for both undergraduate and graduate courses such as medical informatics, machine learning, big data, and IoT. Explains the uses of CNN, Deep Learning and extreme machine learning concepts for the design and development of predictive diagnostic systems. Includes several privacy preservation techniques for medical data. Presents the integration of Internet of Things with predictive diagnostic systems for disease diagnosis. Offers case studies and applications relating to machine learning, big data, and health care analysis.

Algorithms for Memory Hierarchies

Informatics in SchoolsTeaching and Learning Perspectives

Combinatorial Algorithms for Integrated Circuit Layout

Proceedings of the ... Annual International ACM SIGIR Conference on Research and Development in Information Retrieval

Datapro Directory of Microcomputer Software

The Programming Contest Training Manual