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Analysis of Images, Social Networks and Texts Wil M.P. van der Aalst 2017-12-20 This book constitutes the proceedings of the 6th International Conference on Analysis of Images, Social Networks and Texts, AIST 2017, held in Moscow, Russia, in July 2017. The 29 full papers and 8 short papers were carefully reviewed and selected from 127 submissions. The papers are organized in topical sections on natural language processing; general topics of data analysis; analysis of images and video; optimization problems on graphs and network structures; analysis of dynamic behavior through event data; social network analysis.

Modeling and Simulation in Scilab/Scicos with ScicosLab 4.4 Stephen L. Campbell 2009-12-21 Scilab and its Scicos block diagram graphical editor, with a special emphasis on modeling and simulation tools. The first part is a detailed Scilab tutorial, and the second is dedicated to modeling and simulation of dynamical systems in Scicos. The concepts are illustrated through numerous examples, and all code used in the book is available to the reader.

Advances in Theory and Practice of Computational Mechanics Lakhmi C. Jain 2020-03-31 This book discusses physical and mathematical models, numerical methods, computational algorithms and software complexes, which allow high-precision mathematical modeling in fluid, gas, and plasma mechanics; general mechanics; deformable solid mechanics; and strength, destruction and safety of structures. These proceedings focus on smart technologies and software systems that provide effective solutions to real-world problems in applied mechanics at various multi-scale levels. Highlighting the training of specialists for the aviation and space industry, it is a valuable resource for experts in the field of applied mathematics and mechanics, mathematical modeling and information technologies, as well as developers of smart applied software systems.

Intelligent Technical Systems Natividad Martínez Madrid 2009-02-18 Intelligent technical systems are networked, embedded systems incorporating real-time capacities that are able to interact with and adapt to their environments. These systems need innovative approaches in order to meet requirements like cost, size, power and memory consumption, as well as real-time compliance and security. Intelligent Technical Systems covers different levels like multimedia systems, embedded programming, middleware platforms, sensor networks and autonomous systems and applications for intelligent engineering. Each level is discussed by a set of original articles summarizing the state of the art and presenting a concrete application; they include a deep discussion of their model and explain all design decisions relevant to obtain a mature solution.

Computational Methods for Representations of Groups and Algebras P. Dräxler 1999 This book presents material from 3 survey lectures and 14 additional invited lectures given at the Euroconference "Computational Methods for Representations of Groups and Algebras" held at Essen University in April 1997. The purpose of this meeting was to provide a survey of general theoretical and computational methods and recent advances in the representation theory of groups and algebras. The foundations of these research areas were laid in survey articles by P. DrAxler and R. NArenberg on "Classification problems in the representation theory of finite-dimensional algebras," R. A. Wilson on "Construction of finite matrix groups" and E. Green on "Noncommutative GrAbner bases, and projective resolutions." Furthermore, new applications of the computational methods in linear algebra to the revision of the classification of finite simple sporadic groups are presented. Computational tools (including high-performance computations on supercomputers) have become increasingly important for classification problems. They are also inevitable for the construction of projective resolutions of finitely generated modules over finite-dimensional algebras and the study of group cohomology and rings of invariants. A major part of this book is devoted to a survey of algorithms for computing special examples in the study of Grothendieck groups, quadratic forms and derived categories of finite-dimensional algebras. Open questions on Lie algebras, Bruhat orders, Coxeter groups and Kazhdan Lusztig polynomials are investigated with the aid of computer programs. The contents of this book provide an overview on the present state of the art. Therefore it will be very useful for graduate students and researchers in mathematics, computer science and physics.

Guide to Graphics Software Tools Jim X. Chen 2008-12-17 The 2nd edition of this integrated guide explains and lists readily available graphics software tools and their applications, while also serving as a shortcut to graphics theory and programming. It grounds readers in fundamental concepts and helps them use visualization, modeling, simulation, and virtual reality to complement and improve their work.

MMIXware Donald E. Knuth 2003-06-26 MMIX is a RISC computer designed by Don Knuth to illustrate machine-level aspects of programming. In the author's book series "The Art of Computer Programming", MMIX replaces the 1960s-style machine MIX. A particular goal in the design of MMIX was to keep its machine language simple, elegant, and easy to learn. At the same time, all of the complexities needed to achieve high performance in practice are taken into account. This book constitutes a collection of programs written in CWEB that make MMIX a virtual reality. Among other utilities, an assembler converting MMIX symbolic files to MMIX objects and two simulators executing the programs in given object files are provided. The latest version of all programs can be downloaded from MMIX's home page. The book provides a complete documentation of the MMIX computer and its assembly language. It also presents mini-indexes, which make the programs much easier to understand. A corrected reprint of the book has been published in August 2014, replacing the version of 1999.

Electronics & Wireless World 1986

The Nature of Code Daniel Shiffman 2012 How can we capture the unpredictable evolutionary and emergent properties of nature in software? How can understanding the mathematical principles behind our physical world help us to create digital worlds? This book focuses on a range of programming strategies and techniques behind computer simulations of natural systems, from elementary concepts in mathematics and physics to more advanced algorithms that enable sophisticated visual results. Readers will progress from building a basic physics engine to creating intelligent moving objects and complex systems, setting the foundation for further experiments in generative design. Subjects covered include forces, trigonometry, fractals, cellular automata, self-organization, and genetic algorithms. The book's examples are written in Processing, an open-source language and development environment built on

top of the Java programming language. On the book's website (http: //www.natureofcode.com), the examples run in the browser via Processing's JavaScript mode.

Foundations of Data Science Avrim Blum 2020-01-23 This book provides an introduction to the mathematical and algorithmic foundations of data science, including machine learning, high-dimensional geometry, and analysis of large networks. Topics include the counterintuitive nature of data in high dimensions, important linear algebraic techniques such as singular value decomposition, the theory of random walks and Markov chains, the fundamentals of and important algorithms for machine learning, algorithms and analysis for clustering, probabilistic models for large networks, representation learning including topic modelling and non-negative matrix factorization, wavelets and compressed sensing. Important probabilistic techniques are developed including the law of large numbers, tail inequalities, analysis of random projections, generalization guarantees in machine learning, and moment methods for analysis of phase transitions in large random graphs. Additionally, important structural and complexity measures are discussed such as matrix norms and VC-dimension. This book is suitable for both undergraduate and graduate courses in the design and analysis of algorithms for data.

Mars Viorel Badescu 2009-12-07 th th Mars, the Red Planet, fourth planet from the Sun, forever linked with 19 and 20 Century fantasy of a bellicose, intelligent Martian civilization. The romance and excitement of that fiction remains today, even as technologically sophisticated - botic orbiters, landers, and rovers seek to unveil Mars' secrets; but so far, they have yet to find evidence of life. The aura of excitement, though, is justified for another reason: Mars is a very special place. It is the only planetary surface in the Solar System where humans, once free from the bounds of Earth, might hope to establish habitable, self-sufficient colonies. Endowed with an insatiable drive, focused motivation, and a keen sense of - ploration and adventure, humans will undergo the extremes of physical hardship and danger to push the envelope, to do what has not yet been done. Because of their very nature, there is little doubt that humans will in fact conquer Mars. But even earth-bound extremes, such those experienced by the early polar explorers, may seem like a walk in the park compared to future experiences on Mars.

Service Systems Engineering and Management A. Ravi Ravindran 2018-04-18 Recipient of the 2019 IISE Institute of Industrial and Systems Engineers Joint Publishers Book-of-the-Year Award This is a comprehensive textbook on service systems engineering and management. It emphasizes the use of engineering principles to the design and operation of service enterprises. Service systems engineering relies on mathematical models and methods to solve problems in the service industries. This textbook covers state-of-the-art concepts, models and solution methods important in the design, control, operations and management of service enterprises. Service Systems Engineering and Management begins with a basic overview of service industries and their importance in today's economy. Special challenges in managing services, namely, perishability, intangibility, proximity and simultaneity are discussed. Quality of service metrics and methods for measuring them are then discussed. Evaluating the design and operation of service systems frequently involves the conflicting criteria of cost and customer service. This textbook presents two approaches to evaluate the performance of service systems – Multiple Criteria Decision Making and Data Envelopment Analysis. The textbook then discusses several topics in service systems engineering and management – supply chain optimization, warehousing and distribution, modern portfolio theory, revenue management, retail engineering, health systems engineering and financial services. Features: Stresses quantitative models and methods in service systems engineering and management Includes chapters on design and evaluation of service systems, supply chain engineering, warehousing and distribution, financial engineering, healthcare systems, retail engineering and revenue management Bridges theory and practice Contains end-of-

chapter problems, case studies, illustrative examples, and real-world applications Service Systems Engineering and Management is primarily addressed to those who are interested in learning how to apply operations research models and methods for managing service enterprises. This textbook is well suited for industrial engineering students interested in service systems applications and MBA students in elective courses in operations management, logistics and supply chain management that emphasize quantitative analysis.

Modeling and Simulation of Systems Using MATLAB and Simulink Devendra K. Chaturvedi 2017-12-19 Not only do modeling and simulation help provide a better understanding of how real-world systems function, they also enable us to predict system behavior before a system is actually built and analyze systems accurately under varying operating conditions. Modeling and Simulation of Systems Using MATLAB® and Simulink® provides comprehensive, state-of-the-art coverage of all the important aspects of modeling and simulating both physical and conceptual systems. Various real-life examples show how simulation plays a key role in understanding real-world systems. The author also explains how to effectively use MATLAB and Simulink software to successfully apply the modeling and simulation techniques presented. After introducing the underlying philosophy of systems, the book offers step-by-step procedures for modeling different types of systems using modeling techniques, such as the graph-theoretic approach, interpretive structural modeling, and system dynamics modeling. It then explores how simulation evolved from pre-computer days into the current science of today. The text also presents modern soft computing techniques, including artificial neural networks, fuzzy systems, and genetic algorithms, for modeling and simulating complex and nonlinear systems. The final chapter addresses discrete systems modeling. Preparing both undergraduate and graduate students for advanced modeling and simulation courses, this text helps them carry out effective simulation studies. In addition, graduate students should be able to comprehend and conduct simulation research after completing this book.

21 Things You Need to Know About Diabetes and Your Heart Jill Weisenberger 2014-11-21 21 Things You Need to Know About Diabetes and Your Heart is a quick way to learn about the affect of diabetes on the heart. Part of the American Diabetes Association's 21 Things series, this book gives the reader brief, concise answers to the many questions about how diabetes affects the body. Jill Weisenberger and David S. Schade describe the effects of diabetes on the heart in plain language, making it easier to understand and remember. Written and reviewed by healthcare professionals with years of clinical experience, this book will help people with diabetes keep their diabetes under control and their hearts healthy.

Delaunay Mesh Generation Siu-Wing Cheng 2016-04-19 Written by authors at the forefront of modern algorithms research, Delaunay Mesh Generation demonstrates the power and versatility of Delaunay meshers in tackling complex geometric domains ranging from polyhedra with internal boundaries to piecewise smooth surfaces. Covering both volume and surface meshes, the authors fully explain how and why these meshing algorithms work. The book is one of the first to integrate a vast amount of cutting-edge material on Delaunay triangulations. It begins with introducing the problem of mesh generation and describing algorithms for constructing Delaunay triangulations. The authors then present algorithms for generating high-quality meshes in polygonal and polyhedral domains. They also illustrate how to use restricted Delaunay triangulations to extend the algorithms to surfaces with ridges and patches and volumes with smooth surfaces. For researchers and graduate students, the book offers a rigorous theoretical analysis of mesh generation methods. It provides the necessary mathematical foundations and core theoretical results upon which researchers can build even better algorithms in the future. For engineers, the book shows how the algorithms work well in practice. It explains how to

effectively implement them in the design and programming of mesh generation software.

Spectral Line Shapes in Astrophysics and Related Topics Milan S. Dimitrijević 2020-02-18 Spectral lines, widths, and shapes are powerful tools for emitting/absorbing gas diagnostics in different astrophysical objects (from the solar system to the most distant objects in the universe—quasars). On the other hand, experimental and theoretical investigations of laboratory plasma have been applied in spectroscopic astrophysical research, especially in research on atomic data needed for line shape calculations. Data on spectral lines and their profiles are also important for diagnostics, analysis, and the modelling of fusion plasma, laser-produced plasma, laser design and development, and various plasmas in industry and technology, like light sources based on plasmas or the welding and piercing of metals by laser-produced plasma. The papers from this book can be divided into four groups: 1. stark broadening data for astrophysical and laboratory plasma investigations; 2. applications of spectral lines for astrophysical and laboratory plasma research; 3. spectral line phenomena in extragalactic objects, and 4. laboratory astrophysics results for spectra investigation. The reviews and research papers, representing new research on the topics presented in this book, are of interest for specialists and PhD students. We hope that the present book will be useful and interesting for scientists interested in the investigation of spectral line shapes and will contribute to the education of young researchers and PhD students.

Mind Tools Rudy Rucker 2013-11-21 Originally published: Boston: Houghton Mifflin, 1987.

Data Mining and Analysis Mohammed J. Zaki 2014-05-12 A comprehensive overview of data mining from an algorithmic perspective, integrating related concepts from machine learning and statistics.

Numerical Computations with GPUs Volodymyr Kindratenko 2014-07-03 This book brings together research on numerical methods adapted for Graphics Processing Units (GPUs). It explains recent efforts to adapt classic numerical methods, including solution of linear equations and FFT, for massively parallel GPU architectures. This volume consolidates recent research and adaptations, covering widely used methods that are at the core of many scientific and engineering computations. Each chapter is written by authors working on a specific group of methods; these leading experts provide mathematical background, parallel algorithms and implementation details leading to reusable, adaptable and scalable code fragments. This book also serves as a GPU implementation manual for many numerical algorithms, sharing tips on GPUs that can increase application efficiency. The valuable insights into parallelization strategies for GPUs are supplemented by ready-to-use code fragments. Numerical Computations with GPUs targets professionals and researchers working in high performance computing and GPU programming. Advanced-level students focused on computer science and mathematics will also find this book useful as secondary text book or reference.

A First Course in Scientific Computing Rubin H. Landau 2011-10-30 This book offers a new approach to introductory scientific computing. It aims to make students comfortable using computers to do science, to provide them with the computational tools and knowledge they need throughout their college careers and into their professional careers, and to show how all the pieces can work together. Rubin Landau introduces the requisite mathematics and computer science in the course of realistic problems, from energy use to the building of skyscrapers to projectile motion with drag. He is attentive to how each discipline uses its own language to describe the same concepts and how computations are concrete instances of the abstract. Landau covers the basics of computation, numerical analysis, and programming from a computational science perspective. The first part of the printed book uses the problem-solving environment Maple as its context, with the same material covered on the

accompanying CD as both Maple and Mathematica programs; the second part uses the compiled language Java, with equivalent materials in Fortran90 on the CD; and the final part presents an introduction to LaTeX replete with sample files. Providing the essentials of computing, with practical examples, A First Course in Scientific Computing adheres to the principle that science and engineering students learn computation best while sitting in front of a computer, book in hand, in trial-and-error mode. Not only is it an invaluable learning text and an essential reference for students of mathematics, engineering, physics, and other sciences, but it is also a consummate model for future textbooks in computational science and engineering courses. A broad spectrum of computing tools and examples that can be used throughout an academic career Practical computing aimed at solving realistic problems Both symbolic and numerical computations A multidisciplinary approach: science + math + computer science Maple and Java in the book itself; Mathematica, Fortran90, Maple and Java on the accompanying CD in an interactive workbook format

System-on-Chip Methodologies & Design Languages Peter J. Ashenden 2013-03-14 System-on-Chip Methodologies & Design Languages brings together a selection of the best papers from three international electronic design language conferences in 2000. The conferences are the Hardware Description Language Conference and Exhibition (HDLCon), held in the Silicon Valley area of USA; the Forum on Design Languages (FDL), held in Europe; and the Asia Pacific Chip Design Language (APChDL) Conference. The papers cover a range of topics, including design methods, specification and modeling languages, tool issues, formal verification, simulation and synthesis. The results presented in these papers will help researchers and practicing engineers keep abreast of developments in this rapidly evolving field.

Lies Women Believe/Lies Women Believe Study Guide- 2 book set Nancy DeMoss Wolgemuth 2018-04-02 This 2-book set includes bestselling Lies Women Believe and Lies Women Believe Study Guide. In this bestseller book, Lies Women Believe, Nancy exposes those areas of deception most commonly believed by Christian women—lies about God, sin, priorities, marriage and family, emotions, and more. She then sheds light on how we can be delivered from bondage and set free to walk in God's grace, forgiveness, and abundant life. Nancy offers the most effective weapon to counter and overcome Satan's deceptions: God's truth! In Lies Women Believe Study Guide, you will go deeper with the truths of Lies Women Believe. This engaging workbookis made up of ten sessions and is designed for individuals and small groups. You will get an overview of the chapter to be studied from Lies Women Believe, a daily personal study for you to complete during the course of the week between your small group meetings, as well as questions to answer under the subtitles "Realize," "Reflect," and "Respond."

Applied Spatial Data Analysis with R Roger S. Bivand 2013-06-21 Applied Spatial Data Analysis with R, second edition, is divided into two basic parts, the first presenting R packages, functions, classes and methods for handling spatial data. This part is of interest to users who need to access and visualise spatial data. Data import and export for many file formats for spatial data are covered in detail, as is the interface between R and the open source GRASS GIS and the handling of spatio-temporal data. The second part showcases more specialised kinds of spatial data analysis, including spatial point pattern analysis, interpolation and geostatistics, areal data analysis and disease mapping. The coverage of methods of spatial data analysis ranges from standard techniques to new developments, and the examples used are largely taken from the spatial statistics literature. All the examples can be run using R contributed packages available from the CRAN website, with code and additional data sets from the book's own website. Compared to the first edition, the second edition covers the more systematic approach towards handling spatial data in R, as well as a number of important and widely used CRAN packages that have appeared since the first edition. This book will be of interest to researchers who

intend to use R to handle, visualise, and analyse spatial data. It will also be of interest to spatial data analysts who do not use R, but who are interested in practical aspects of implementing software for spatial data analysis. It is a suitable companion book for introductory spatial statistics courses and for applied methods courses in a wide range of subjects using spatial data, including human and physical geography, geographical information science and geoinformatics, the environmental sciences, ecology, public health and disease control, economics, public administration and political science. The book has a website where complete code examples, data sets, and other support material may be found: http://www.asdar-book.org. The authors have taken part in writing and maintaining software for spatial data handling and analysis with R in concert since 2003.

Applied Strength of Materials for Engineering Technology Barry Dupen 2018 This algebra-based text is designed specifically for Engineering Technology students, using both SI and US Customary units. All example problems are fully worked out with unit conversions. Unlike most textbooks, this one is updated each semester using student comments, with an average of 80 changes per edition.

Cardiovascular Biomechanics Peter R. Hoskins 2017-02-16 This book provides a balanced presentation of the fundamental principles of cardiovascular biomechanics research, as well as its valuable clinical applications. Pursuing an integrated approach at the interface of the life sciences, physics and engineering, it also includes extensive images to explain the concepts discussed. With a focus on explaining the underlying principles, this book examines the physiology and mechanics of circulation, mechanobiology and the biomechanics of different components of the cardiovascular system, in-vivo techniques, in-vitro techniques, and the medical applications of this research. Written for undergraduate and postgraduate students and including sample problems at the end of each chapter, this interdisciplinary text provides an essential introduction to the topic. It is also an ideal reference text for researchers and clinical practitioners, and will benefit a wide range of students and researchers including engineers, physicists, biologists and clinicians who are interested in the area of cardiovascular biomechanics.

Handbook of Market Risk Christian Szylar 2013-10-16 A ONE-STOP GUIDE FOR THE THEORIES, APPLICATIONS, AND STATISTICALMETHODOLOGIES OF MARKET RISK Understanding and investigating the impacts of market risk onthe financial landscape is crucial in preventing crises. Written bya hedge fund specialist, the Handbook of Market Risk is thecomprehensive guide to the subject of market risk. Featuring a format that is accessible and convenient, thehandbook employs numerous examples to underscore the application ofthe material in a real-world setting. The book starts byintroducing the various methods to measure market risk whilecontinuing to emphasize stress testing, liquidity, and interestrate implications. Covering topics intrinsic to understanding andapplying market risk, the handbook features: An introduction to financial markets The historical perspective from market events and diverse mathematics to the value-at-risk Return and volatility estimates Diversification, portfolio risk, and efficient frontier The Capital Asset Pricing Model and the Arbitrage Pricing Theory The use of a fundamental multi-factors model Financial derivatives instruments Fixed income and interest rate risk Liquidity risk Alternative investments Stress testing and back testing Banks and Basel II/III The Handbook of Market Risk is a must-have resource forfinancial engineers, quantitative analysts, regulators, riskmanagers in investments banks, and large-scale consultancy groupsadvising banks on internal systems. The handbook is also anexcellent text for academics teaching postgraduate courses onfinancial methodology.

Analysis of Phylogenetics and Evolution with R Emmanuel Paradis 2011-11-06 The increasing availability of molecular and genetic databases coupled with the growing power of computers gives

biologists opportunities to address new issues, such as the patterns of molecular evolution, and re-assess old ones, such as the role of adaptation in species diversification. In the second edition, the book continues to integrate a wide variety of data analysis methods into a single and flexible interface: the R language. This open source language is available for a wide range of computer systems and has been adopted as a computational environment by many authors of statistical software. Adopting R as a main tool for phylogenetic analyses will ease the workflow in biologists' data analyses, ensure greater scientific repeatability, and enhance the exchange of ideas and methodological developments. The second edition is completed updated, covering the full gamut of R packages for this area that have been introduced to the market since its previous publication five years ago. There is also a new chapter on the simulation of evolutionary data. Graduate students and researchers in evolutionary biology can use this book as a reference for data analyses, whereas researchers in bioinformatics interested in evolutionary analyses will learn how to implement these methods in R. The book starts with a presentation of different R packages and gives a short introduction to R for phylogeneticists unfamiliar with this language. The basic phylogenetic topics are covered: manipulation of phylogenetic data, phylogeny estimation, tree drawing, phylogenetic comparative methods, and estimation of ancestral characters. The chapter on tree drawing uses R's powerful graphical environment. A section deals with the analysis of diversification with phylogenies, one of the author's favorite research topics. The last chapter is devoted to the development of phylogenetic methods with R and interfaces with other languages (C and C++). Some exercises conclude these chapters.

Electric and Magnetic Fields R. Belmans 2012-12-06 This book contains the edited versions of the papers presented at the Second International Workshop on Electric and Magnetic Fields held at the Katholieke Universiteit van Leuven (Belgium) in May 1994. This Workshop deals with numerical solutions of electromagnetic problems in real life applications. The topics include coupled problems (thermal, mechanical, electric circuits), CAD & CAM applications, 3D eddy current and high frequency problems, optimisation and application oriented numerical problems. This workshop was organised jointly by the AIM (Association of Engineers graduated from de Montefiore Electrical Institute) together with the Departments of Electrical Engineering of the Katholieke Universiteit van Leuven (Prof. R. Belmans), the University of Gent (Prof. J. Melkebbek) and the University of Liege (Prof. W. Legros). These laboratories are working together in the framework of the Pole d'Attraction Interuniversitaire - Inter-University Attractie-Pole 51 - on electromagnetic systems led by the University of Liege and the research work they perform covers most of the topics of the Workshop. One of the principal aims of this Workshop was to provide a bridge between the electromagnetic device designers, mainly industrialists, and the electromagnetic field computation developers. Therefore, this book contains a continuous spectrum of papers from application of electromagnetic models in industrial design to presentation of new theoretical developments.

System Identification Karel J. Keesman 2011-05-16 System Identification shows the student reader how to approach the system identification problem in a systematic fashion. The process is divided into three basic steps: experimental design and data collection; model structure selection and parameter estimation; and model validation, each of which is the subject of one or more parts of the text. Following an introduction on system theory, particularly in relation to model representation and model properties, the book contains four parts covering: • data-based identification – non-parametric methods for use when prior system knowledge is very limited; • time-invariant identification for systems with constant parameters; • time-varying systems identification, primarily with recursive estimation techniques; and • model validation methods. A fifth part, composed of appendices, covers the various aspects of the underlying mathematics needed to begin using the text. The book uses essentially semi-physical or gray-box modeling methods although data-based, transfer-function system descriptions are also introduced.

The approach is problem-based rather than rigorously mathematical. The use of finite input–output data is demonstrated for frequency- and time-domain identification in static, dynamic, linear, nonlinear, time-invariant and time-varying systems. Simple examples are used to show readers how to perform and emulate the identification steps involved in various control design methods with more complex illustrations derived from real physical, chemical and biological applications being used to demonstrate the practical applicability of the methods described. End-of-chapter exercises (for which a downloadable instructors' Solutions Manual is available from fill in URL here) will both help students to assimilate what they have learned and make the book suitable for self-tuition by practitioners looking to brush up on modern techniques. Graduate and final-year undergraduate students will find this text to be a practical and realistic course in system identification that can be used for assessing the processes of a variety of engineering disciplines. System Identification will help academic instructors teaching control-related to give their students a good understanding of identification methods that can be used in the real world without the encumbrance of undue mathematical detail.

Under His Covering Jacqueline Johnson 2017-08-25 Three women, three stories, and three tragedies. Lola, malicious, conniving and misunderstood. Monique vain, promiscuous and alone but with a heart of gold. Queen money hungry, mentally unstable and lost. How do you cope with life after being physically, mentally and emotionally abused? What if you were sold into slavery by someone you trusted? How do you stop deceiving when deceit is all you know? Sins of mothers and fathers result in the downfall of daughters. Scandal, drug abuse, family secrets, and murder. Young lives changed forever, warnings from above and final realization that with God there is always a second chance in any circumstance. Under His Covering: The Blooming of Faith will take you on an emotional roller coaster with twists and turns that will leave you crying for more. Hold on to your seat because Under His Covering: The Blooming of Faith promises to be the thriller of a lifetime.

An Introduction to Reservoir Simulation Using MATLAB/GNU Octave Knut-Andreas Lie 2019-06-30 This book provides a self-contained introduction to the simulation of flow and transport in porous media, written by a developer of numerical methods. The reader will learn how to implement reservoir simulation models and computational algorithms in a robust and efficient manner. The book contains a large number of numerical examples, all fully equipped with online code and data, allowing the reader to reproduce results, and use them as a starting point for their own work. All of the examples in the book are based on the MATLAB Reservoir Simulation Toolbox (MRST), an open-source toolbox popular popularity in both academic institutions and the petroleum industry. The book can also be seen as a user guide to the MRST software. It will prove invaluable for researchers, professionals and advanced students using reservoir simulation methods. This title is also available as Open Access on Cambridge Core.

Handbook of Induction Heating Valery Rudnev 2017-07-14 The second edition of the Handbook of Induction Heating reflects the number of substantial advances that have taken place over the last decade in theory, computer modeling, semi-conductor power supplies, and process technology of induction heating and induction heat treating. This edition continues to be a synthesis of information, discoveries, and technical insights that have been accumulated at Inductoheat Inc. With an emphasis on design and implementation, the newest edition of this seminal guide provides numerous case studies, ready-to-use tables, diagrams, rules-of-thumb, simplified formulas, and graphs for working professionals and students.

Mathematical Methods in Economics and Social Choice norman schofield 2004-03-15 In recent years, the usual optimisation techniques have been extended to incorporate more powerful topological and

differential methods, and these methods have led to new results on the qualitative behaviour of general economic and political systems. The progression of ideas presented in this book will familiarize the student with the geometric concepts underlying these topological methods, and, as a result, make mathematical economics, general equilibrium theory, and social choice theory more accessible.

Data Mining for Bioinformatics Sumeet Dua 2012-11-06 Covering theory, algorithms, and methodologies, as well as data mining technologies, Data Mining for Bioinformatics provides a comprehensive discussion of data-intensive computations used in data mining with applications in bioinformatics. It supplies a broad, yet in-depth, overview of the application domains of data mining for bioinformatics to help readers from both biology and computer science backgrounds gain an enhanced understanding of this cross-disciplinary field. The book offers authoritative coverage of data mining techniques, technologies, and frameworks used for storing, analyzing, and extracting knowledge from large databases in the bioinformatics domains, including genomics and proteomics. It begins by describing the evolution of bioinformatics and highlighting the challenges that can be addressed using data mining techniques. Introducing the various data mining techniques that can be employed in biological databases, the text is organized into four sections: Supplies a complete overview of the evolution of the field and its intersection with computational learning Describes the role of data mining in analyzing large biological databases—explaining the breath of the various feature selection and feature extraction techniques that data mining has to offer Focuses on concepts of unsupervised learning using clustering techniques and its application to large biological data Covers supervised learning using classification techniques most commonly used in bioinformatics—addressing the need for validation and benchmarking of inferences derived using either clustering or classification The book describes the various biological databases prominently referred to in bioinformatics and includes a detailed list of the applications of advanced clustering algorithms used in bioinformatics. Highlighting the challenges encountered during the application of classification on biological databases, it considers systems of both single and ensemble classifiers and shares effort-saving tips for model selection and performance estimation strategies.

Fundamentals of Hydraulic Engineering Systems Robert J. Houghtalen 2010 Fundamentals of Hydraulic Engineering Systems, Fourth Edition is a very useful reference for practicing engineers who want to review basic principles and their applications in hydraulic engineering systems. This fundamental treatment of engineering hydraulics balances theory with practical design solutions to common engineering problems. The author examines the most common topics in hydraulics, including hydrostatics, pipe flow, pipelines, pipe networks, pumps, open channel flow, hydraulic structures, water measurement devices, and hydraulic similitude and model studies. Chapters dedicated to groundwater, deterministic hydrology, and statistical hydrology make this text ideal for courses designed to cover hydraulics and hydrology in one semester.

The Civil Engineering Handbook W.F. Chen 2002-08-29 First published in 1995, the award-winning Civil Engineering Handbook soon became known as the field's definitive reference. To retain its standing as a complete, authoritative resource, the editors have incorporated into this edition the many changes in techniques, tools, and materials that over the last seven years have found their way into civil engineering research and practice. The Civil Engineering Handbook, Second Edition is more comprehensive than ever. You'll find new, updated, and expanded coverage in every section. In fact, more than 1/3 of the handbook is new or substantially revised. In particular you'll find increased focus on computing reflecting the rapid advances in computer technology that has revolutionized many aspects of civil engineering. You'll use it as a survey of the field, you'll use it to explore a particular subject, but most of all you'll use The Civil Engineering Handbook to answer the problems, questions,

and conundrums you encounter in practice.

Guide to Biometric Reference Systems and Performance Evaluation Dijana Petrovska-Delacrétaz 2009-04-05 Biometrics has moved from using fingerprints to using many methods of assessing human physical and behavioral traits. This guide introduces a new performance evaluation framework designed to offer full coverage of performance evaluation of biometric systems.

Seismic Analysis of Structures T. K. Datta 2010-05-24 While numerous books have been written on earthquakes, earthquake resistance design, and seismic analysis and design of structures, none have been tailored for advanced students and practitioners, and those who would like to have most of the important aspects of seismic analysis in one place. With this book, readers will gain proficiencies in the following: fundamentals of seismology that all structural engineers must know; various forms of seismic inputs; different types of seismic analysis like, time and frequency domain analyses, spectral analysis of structures for random ground motion, response spectrum method of analysis; equivalent lateral load analysis as given in earthquake codes; inelastic response analysis and the concept of ductility; ground response analysis and seismic soil structure interaction; seismic reliability analysis of structures; and control of seismic response of structures. Provides comprehensive coverage, from seismology to seismic control Contains useful empirical equations often required in the seismic analysis of structures Outlines explicit steps for seismic analysis of MDOF systems with multi support excitations Works through solved problems to illustrate different concepts Makes use of MATLAB, SAP2000 and ABAQUAS in solving example problems of the book Provides numerous exercise problems to aid understanding of the subject As one of the first books to present such a comprehensive treatment of the topic, Seismic Analysis of Structures is ideal for postgraduates and researchers in Earthquake Engineering, Structural Dynamics, and Geotechnical Earthquake Engineering. Developed for classroom use, the book can also be used for advanced undergraduate students planning for a career or further study in the subject area. The book will also better equip structural engineering consultants and practicing engineers in the use of standard software for seismic analysis of buildings, bridges, dams, and towers. Lecture materials for instructors available at www.wiley.com/go/dattaseismic

Architectures for Computer Vision Hong Jeong 2014 This book provides comprehensive coverage of 3D vision systems, from vision models and state-of-the-art algorithms to their hardware architectures for implementation on DSPs, FPGA and ASIC chips, and GPUs. It aims to fill the gaps between computer vision algorithms and real-time digital circuit implementations, especially with Verilog HDL design. The organization of this book is vision and hardware module directed, based on Verilog vision modules, 3D vision modules, parallel vision architectures, and Verilog designs for the stereo matching system with various parallel architectures. It provides Verilog vision simulators, tailored to the design and testing of general vision chips. It bridges the differences between C/C++ and HDL to encompass both software realization and chip implementation; includes numerous examples that realize vision algorithms and general vision processing in HDL. It is unique in providing an organized and complete overview of how a real-time 3D vision system-on-chip can be designed. It focuses on the digital VLSI aspects and implementation of digital signal processing tasks on hardware platforms such as ASICs and FPGAs for 3D vision systems, which have not been comprehensively covered in one single book. It provides a timely view of the pervasive use of vision systems and the challenges of fusing information from different vision modules. The accompanying website includes software and HDL code packages to enhance further learning and develop advanced systems. A solution set and lecture slides are provided on the book's companion website. The book is aimed at graduate students and researchers in computer vision and embedded systems, as well as chip and FPGA designers. Senior undergraduate students specializing in VLSI design or computer vision will also find the book to be helpful in understanding

advanced applications.

An Introduction to Linear Programming and Game Theory Paul R. Thie 2011-09-15 Praise for the Second Edition: "This is quite a well-done book: very tightly organized,better-than-average exposition, and numerous examples,illustrations, and applications." —Mathematical Reviews of the American MathematicalSociety An Introduction to Linear Programming and Game Theory, ThirdEdition presents a rigorous, yet accessible, introduction tothe theoretical concepts and computational techniques of linearprogramming and game theory. Now with more extensive modelingexercises and detailed integer programming examples, this bookuniquely illustrates how mathematics can be used in real-worldapplications in the social, life, and managerial sciences,providing readers with the opportunity to develop and apply theiranalytical abilities when solving realistic problems. This Third Edition addresses various new topics and improvementsin the field of mathematical programming, and it also presents twosoftware programs, LP Assistant and the Solver add-in for MicrosoftOffice Excel, for solving linear programming problems. LPAssistant, developed by coauthor Gerard Keough, allows readers toperform the basic steps of the algorithms provided in the book andis freely available via the book's related Web site. The use of thesensitivity analysis report and integer programming algorithm fromthe Solver add-in for Microsoft Office Excel is introduced soreaders can solve the book's linear and integer programmingproblems. A detailed appendix contains instructions for the use ofboth applications. Additional features of the Third Edition include: A discussion of sensitivity analysis for the two-variableproblem, along with new examples demonstrating integer programming,non-linear programming, and make vs. buy models Revised proofs and a discussion on the relevance and solution ofthe dual problem A section on developing an example in Data EnvelopmentAnalysis An outline of the proof of John Nash's theorem on the existenceof equilibrium strategy pairs for non-cooperative, non-zero-sumgames Providing a complete mathematical development of all presentedconcepts and examples, Introduction to Linear Programming andGame Theory, Third Edition is an ideal text for linearprogramming and mathematical modeling courses at theupper-undergraduate and graduate levels. It also serves as avaluable reference for professionals who use game theory inbusiness, economics, and management science.