

62 43mb Smart Structures Analysis And Design 1st Published

Master data analysis, modeling, and spreadsheet use with BUSINESS ANALYTICS: DATA ANALYSIS AND DECISION MAKING, 6E! Popular with students, instructors, and practitioners, this quantitative methods text delivers the tools to succeed with its proven teach-by-example approach, user-friendly writing style, and complete Excel 2016 integration. It is also compatible with Excel 2013, 2010, and 2007. Completely rewritten, Chapter 17, Data Mining, and Chapter 18, Importing Data into Excel, include increased emphasis on the tools commonly included under the Business Analytics umbrella -- including Microsoft Excel's "Power BI" suite. In addition, up-to-date problem sets and cases provide realistic examples to show the relevance of the material. **Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.**

Publisher description

This book constitutes the refereed proceedings of the First International Conference on Intelligent Cloud Computing, ICC 2019, held in Riyadh, Saudi Arabia, in December 2019. The two-volume set presents 53 full papers, which were carefully reviewed and selected from 174 submissions. The papers are organized in topical sections on Cyber Security; Data Science; Information Technology and Applications; Network and IoT.

Mathematical methods play a significant role in the rapidly growing field of nonlinear optical materials. This volume discusses a number of successful or promising contributions. The overall theme of this volume is twofold: (1) the challenges faced in computing and optimizing nonlinear optical material properties; and (2) the exploitation of these properties in important areas of application. These include the design of optical amplifiers and lasers, as well as novel optical switches. Research topics in this volume include how to exploit the magneto-optic effect, how to work with the nonlinear optical response of materials, how to predict laser-induced breakdown in efficient optical devices, and how to handle electron cloud distortion in femtosecond processes.

Reinforcement Learning, second edition**Block Trace Analysis and Storage System Optimization****Fundamentals and Applications****Beyond Prejudice****A Practical Approach with MATLAB/Python Tools****The Handbook of Salutogenesis****Environmental Catalysis**

This open access book is a thorough update and expansion of the 2017 edition of The Handbook of Salutogenesis, responding to the rapidly growing salutogenesis research and application arena. Revised and updated from the first edition are background and historical chapters that trace the development of the salutogenic model of health and flesh out the central concepts, most notably generalized resistance resources and the sense of coherence that differentiate salutogenesis from pathogenesis. From there, experts describe a range of real-world applications within and outside health contexts. Many new chapters emphasize intervention research findings. Readers will find numerous practical examples of how to implement salutogenesis to enhance the health and well-being of families, infants and young children, adolescents, unemployed young people, pre-retirement adults, and older people. A dedicated section addresses how salutogenesis helps tackle vulnerability, with chapters on at-risk children, migrants, prisoners, emergency workers, and disaster-stricken communities. Wide-ranging coverage includes new topics beyond health, like intergroup conflict, politics and policy-making, and architecture. The book also focuses on applying salutogenesis in birth and neonatal care clinics, hospitals and primary care, schools and universities, workplaces, and towns and cities. A special section focuses on developments in salutogenesis methods and theory. With its comprehensive coverage, The Handbook of Salutogenesis, 2nd Edition, is the standard reference for researchers, practitioners, and health policy-makers who wish to have a thorough grounding in the topic. It is also written to support post-graduate education courses and self-study in public health, nursing, psychology, medicine, and social sciences.

The concept of prejudice has profoundly influenced how we have investigated, explained and tried to change intergroup relations of discrimination and inequality. But what has this concept contributed to our knowledge of relations between groups and what has it obscured or misrepresented? How has it expanded or narrowed the horizons of psychological inquiry? How effective or ineffective has it been in guiding our attempts to transform social relations and institutions? In this book, a team of internationally renowned psychologists re-evaluate the concept of prejudice, in an attempt to move beyond conventional approaches to the subject and to help the reader gain a clearer understanding of relations within and between groups. This fresh look at prejudice will appeal to scholars and students of social psychology, sociology, political science and peace studies.

Takes programmers through the complete process of developing a professional quality game, covering a range of topics such as the key "gotcha" issues that could trip up even a veteran programmer, game interface design, game audio, and game engine technology

Understand the fundamental factors of data storage system performance and master an essential analytical skill using block trace via applications such as MATLAB and Python tools. You will increase your productivity and learn the best techniques for doing specific tasks (such as analyzing the IO pattern in a quantitative way, identifying the storage system bottleneck, and designing the cache policy). In the new era of IoT, big data, and cloud systems, better performance and higher density of storage systems has become crucial. To increase data storage density, new techniques have evolved and hybrid and parallel access techniques—together with specially designed IO scheduling and data migration algorithms—are being deployed to develop high-performance data storage solutions. Among the various storage system performance analysis techniques, IO event trace analysis (block-level trace analysis particularly) is one of the most common approaches for system optimization and design. However, the task of completing a systematic survey is challenging and very few works on this topic exist. Block Trace Analysis and Storage System Optimization brings together theoretical analysis (such as IO qualitative properties and quantitative metrics) and practical tools (such as trace parsing, analysis, and results reporting perspectives). The book provides content on block-level trace analysis techniques, and includes case studies to illustrate how these techniques and tools can be applied in real applications (such as SSHD, RAID, Hadoop, and Ceph systems). What You'll Learn Understand the fundamental factors of data storage system performance Master an essential analytical skill using block trace via various applications Distinguish how the IO pattern differs in the block level from the file level Know how the sequential HDFS request becomes "fragmented" in final storage devices Perform trace analysis tasks with a tool based on the MATLAB and Python platforms Who This Book Is For IT professionals interested in storage system performance optimization: network administrators, data storage managers, data storage engineers, storage network engineers, systems engineers

Head First Object-Oriented Analysis and Design**Nonlinear Optical Materials****United Nations E-government Survey 2010**

Biomedical Methods and Applications

Advances in Data Science, Cyber Security and IT Applications

Living in a Media World

Atomic Force Microscopy

This resource covers all areas of interest for the practicing engineer as well as for the student at various levels and educational institutions. It features the work of authors from all over the world who have contributed their expertise and support the globally working engineer in finding a solution for today's mechanical engineering problems. Each subject is discussed in detail and supported by numerous figures and tables. "Head First Object Oriented Analysis and Design is a refreshing look at subject of OOAD. What sets this book apart is its focus on learning. The authors have made the content of OOAD accessible, usable for the practitioner." Ivar Jacobson, Ivar Jacobson Consulting "I just finished reading HF OOA&D and I loved it! The thing I liked most about this book was its focus on why we do OOA&D-to write great software!" Kyle Brown, Distinguished Engineer, IBM "Hidden behind the funny pictures and crazy fonts is a serious, intelligent, extremely well-crafted presentation of OO Analysis and Design. As I read the book, I felt like I was looking over the shoulder of an expert designer who was explaining to me what issues were important at each step, and why." Edward Sciore, Associate Professor, Computer Science Department, Boston College Tired of reading Object Oriented Analysis and Design books that only makes sense after you're an expert? You've heard OOA&D can help you write great software every time-software that makes your boss happy, your customers satisfied and gives you more time to do what makes you happy. But how? Head First Object-Oriented Analysis & Design shows you how to analyze, design, and write serious object-oriented software: software that's easy to reuse, maintain, and extend; software that doesn't hurt your head; software that lets you add new features without breaking the old ones. Inside you will learn how to: Use OO principles like encapsulation and delegation to build applications that are flexible Apply the Open-Closed Principle (OCP) and the Single Responsibility Principle (SRP) to promote reuse of your code Leverage the power of design patterns to solve your problems more efficiently Use UML, use cases, and diagrams to ensure that all stakeholders are communicating clearly to help you deliver the right software that meets everyone's needs. By exploiting how your brain works, Head First Object-Oriented Analysis & Design compresses the time it takes to learn and retain complex information. Expect to have fun, expect to learn, expect to be writing great software consistently by the time you're finished reading this!

Continuing the tradition of the best-selling Handbook of Structural Engineering, this second edition is a comprehensive reference to the broad spectrum of structural engineering, encapsulating the theoretical, practical, and computational aspects of the field. The authors address a myriad of topics, covering both traditional and innovative approaches to analysis, design, and rehabilitation. The second edition has been expanded and reorganized to be more informative and cohesive. It also follows the developments that have emerged in the field since the previous edition, such as advanced analysis for structural design, performance-based design of earthquake-resistant structures, lifecycle evaluation and condition assessment of existing structures, the use of high-performance materials for construction, and design for safety. Additionally, the book includes numerous tables, charts, and equations, as well as extensive references, reading lists, and websites for further study or more in-depth information. Emphasizing practical applications and easy implementation, this text reflects the increasingly global nature of engineering, compiling the efforts of an international panel of experts from industry and academia. This is a necessity for anyone studying or practicing in the field of structural engineering. New to this edition Fundamental theories of structural dynamics Advanced analysis Wind and earthquake-resistant design Design of prestressed concrete, masonry, timber, and glass structures Properties, behavior, and use of high-performance steel, concrete, and fiber-reinforced polymers Semirigid frame structures Structural bracing Structural design for fire safety

This report on the government fund to support private sector jobs and growth in places that rely on the public sector, the Regional Growth Fund, finds that the initial £1.4 billion investment could result in some 41,000 more full-time-equivalent private sector jobs in the economy than without the Fund. However, there was scope to have generated more jobs relative to the amount of grant awarded. The Fund has not optimised value for money because a significant proportion of the funds were allocated to projects that offer relatively few jobs for the money invested. The report concludes that applying tighter controls over the value for money offered by individual bids and then allocating funding across more bidding rounds could have created thousands more jobs from the same resources. Rigorous evaluation will be required to quantify precisely the Fund's overall employment impact. More than two thirds (28,000) of the 41,000 additional jobs are expected to be delivered indirectly, for example through knock-on effects in companies' supply chains or the wider economy. The average project will last at least seven years. However, it is not clear how much of the Fund's boost to the private sector will be sustained in the longer term. It has also taken longer than expected to turn conditional offers of grants for projects into final offers. Therefore, despite the government's intention to get projects up and running quickly, only around a third have so far received final offers of funding

Springer Handbook of Mechanical Engineering

Analog and Digital Sound Processing

Emerging Technologies and Applications

First International Conference on Computing, ICC 2019, Riyadh, Saudi Arabia, December 10–12, 2019, Proceedings, Part I

Reinforcing the Threads of Reading

From Animals to Animats 3

Proceedings on 25th International Joint Conference on Industrial Engineering and Operations Management – IJCIEOM

The third volume in the internationally bestselling McKinsey Trilogy, *The McKinsey Engagement* is an action guide to realizing the consistently high level of business solutions achieved by the experts at the world's most respected consulting firms. Former consultant Dr. Paul Friga distills the guiding principles first presented in the bestselling *The McKinsey Way* and the tested-in-the-trenches methodologies outlined in *The McKinsey Mind*, and combines them with many of the principles and procedures implemented by the military and other organizations. The result is nothing less than the business equivalent of a Special Forces Field Manual. True to its stated goal of arming consultants and corporate problem solvers with a blueprint for achieving consistently phenomenal results, *The McKinsey Engagement* is short on theory and long on action. Each chapter focuses on one element in the celebrated TEAM FOCUS problem-solving model and features a concise discussion of a key concept or principle, followed by: Clear rules of engagement A set of operating tactics Sophisticated problem solving tools Easy-to-follow action steps Exercises, checklists, and training tips War stories and best practices case studies A toolkit for bringing clarity, discipline, and purpose to all your problem-solving and change management initiatives, *The McKinsey Engagement* is an indispensable guide for consultants, as well as for executives, managers, students, and corporate trainers.

The ultimate reference and guide to the GNU image manipulation program GIMP is a free, Photoshop-like image manipulation program, and as its use grows, so does the demand for detailed instruction on how to get the very most out of it. *GIMP Bible* is the most comprehensive and current independent GIMP reference available that goes beyond official documentation. If you're a digital artist or photographer, the step-

by-step explanations in this authoritative guide show you how to power-use GIMP throughout a production pipeline. Topics include understanding the GIMP interface and how to work with it, how to use all of GIMP's tools to create high-quality images, GIMP's default filters and plug-ins, advanced techniques for customization with Python and Scheme scripting, and much more. GIMP (GNU Image Manipulation Program) is a free graphics editor that runs on Linux, Windows, or Macs; it is used to process digital graphics and photographs including creating graphics and logos, resizing and cropping photos, altering colors, combining images, creating basic GIF animated images, and more. Whether you're a digital artist, professional photographer, or beginner, this detailed how-to shows you best practices, valuable techniques, and helpful tips for getting the most out of GIMP for your projects. Topics include the GIMP interface and how to work with it, in-depth description of GIMP's tools and how to use them to create high-quality images, a comprehensive reference for all of GIMP's default filters and common plug-ins, and advanced customization with Python and Scheme scripting. Get the most out of this free image editing tool for your production pipeline with the GIMP Bible. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

The intention of fib Bulletin 32 is to present guidelines for the design of footbridges as well as bridges accommodating cyclists and bridleways (equestrian paths). The need for these guidelines comes from the fact that structural engineers designing footbridges currently have to spend considerable time and energy collecting information from numerous documents, codes and recommendations to make design decisions. There seems to be no international document dedicated solely to the design of footbridges. These guidelines attempt to provide a concentrated source of information regarding all design issues specific to footbridges. It is meant to be a 'liberal' document in the sense that it promotes new, innovative and bold yet prudent designs by sharing the experience of the authors, summarizing specifications given in codes, and presenting a collection of examples of well-designed structures or structural details from around the world. It is not intended to be an international code that specifies limits and admissible values, thus encouraging timid, conservative designs that are repetitions of approved and tested designs. Indeed, it may be the very fact that no international code exists specifically for footbridges that encourages the wide variety of footbridge designs found today. It should be noted that numerous guidelines, codes and books have been published on bridge design in general. Information given in those publications that is also applicable to footbridges is not repeated in Bulletin 32. The chapters of these guidelines all follow the same pattern: an introduction to the subject, general guidelines as well as do's and don'ts; a summary of information found in existing international codes, recommendations, experience of the authors, and built examples with comparison and comments on this information; examples. Plenty of illustrations and photographs help to visualize the themes of this work. The last chapter, 'Case Studies', contains footbridges each with a short summary of main structural data and references for further reading.

This book constitutes the refereed proceedings of the 7th International Conference on Cryptology in India, INDOCRYPT 2006, held in Kolkata, India in December 2006. The 29 revised full papers and 2 invited papers cover such topics as symmetric cryptography, provable security, fast implementation of public key cryptography, id-based cryptography, as well as embedded systems and side channel attacks.

GIMP Bible

Smart Sensor Systems

The Regional Growth Fund

An Introduction

Multimedia Signals and Systems

Extending the Social Psychology of Conflict, Inequality and Social Change

Multicore Processors and Systems

The study of environmental interfaces and environmental catalysis is central to finding more effective solutions to air pollution and in understanding of how pollution impacts the natural environment. Encompassing concepts, techniques, and methods, Environmental Catalysis provides a mix of theory, computation, analysis, and synthesis to support the latest applications in biocatalysis, green chemistry, environmental remediation and our understanding of the interaction of pollutants with natural systems. The book focuses on several aspects of environmental catalysis. Surface catalysis of airborne particles - including ice, trace atmospheric gases, aerosolized soot nanoparticles, and mineral dust surfaces - as well as particles in contact with ground water and their role in surface adsorption, surface catalysis, hydrolysis, dissolution, precipitation, oxidation and ozone decomposition is explored. It continues by presenting catalysis as the key technology for treating emissions and reducing waste by-products. The authors review the theory behind catalytic converters and discuss the effectiveness of several catalysts, including zeolites and nanoparticles, in treating emissions, aromatic hydrocarbons, and chemical warfare agents. They also survey the use of biocatalysis in environmental remediation, and industrial processes, particularly in the production of transportation fuels, fine chemicals, and pharmaceuticals. Then the authors explain how enzymes can remove chlorinated organics and metals and how microbes can metabolize toxic chemicals from groundwater. Lastly, they discuss the principles of green chemistry, including the use of environmentally benign solvents, biphasic catalysts, and other alternative solvents to recover and recycle catalysts based on heavy metals. With increasing ground water pollution, increasing particulates in the atmosphere, and the increasing need to remove pollutants from industrial and automotive sources, Environmental Catalysis addresses issues that will be instrumental in current and future environmental challenges we face.

Hydrogels are a fascinating class of polymers which show an immense ability of swelling under the influence of temperature, pH value or concentrations of different species in aqueous solutions. The volume change can amount up to several hundred percent. This unique behaviour is already used in such applications like disposable diapers, contact lenses or drug-delivery systems. The ability to perform mechanical work has been shifted the technical interest more and more towards sensors and actuators exploiting the thermo-chemo-mechano-electrical coupling within hydrogels. The accuracy requirements for such

devices are much more demanding than for previous applications. Therefore, a deep knowledge of both the material and the functional properties of hydrogel sensors and actuators is needed. The monograph describes state of the art and recent developments for these materials in sensor and actuator technology.

With contributions from an internationally-renowned group of experts, this book uses a multidisciplinary approach to review recent developments in the field of smart sensor systems, covering important system and design aspects. It examines topics over the whole range of sensor technology from the theory and constraints of basic elements, physics and electronics, up to the level of application-orientated issues. Developed as a complementary volume to 'Smart Sensor Systems' (Wiley 2008), which introduces the basics of smart sensor systems, this volume focuses on emerging sensing technologies and applications, including: State-of-the-art techniques for designing smart sensors and smart sensor systems, including measurement techniques at system level, such as dynamic error correction, calibration, self-calibration and trimming. Circuit design for sensor systems, such as the design of precision instrumentation amplifiers. Impedance sensors, and the associated measurement techniques and electronics, that measure electrical characteristics to derive physical and biomedical parameters, such as blood viscosity or growth of micro-organisms. Complete sensor systems-on-a-chip, such as CMOS optical imagers and microarrays for DNA detection, and the associated circuit and micro-fabrication techniques. Vibratory gyroscopes and the associated electronics, employing mechanical and electrical signal amplification to enable low-power angular-rate sensing. Implantable smart sensors for neural interfacing in bio-medical applications. Smart combinations of energy harvesters and energy-storage devices for autonomous wireless sensors. Smart Sensor Systems: Emerging Technologies and Applications will greatly benefit final-year undergraduate and postgraduate students in the areas of electrical, mechanical and chemical engineering, and physics. Professional engineers and researchers in the microelectronics industry, including microsystem developers, will also find this a thorough and useful volume.

Transform your students into smart, savvy consumers of the media. **Mass Communication: Living in a Media World** (Ralph E. Hanson) provides students with comprehensive yet concise coverage of all aspects of mass media, along with insightful analysis, robust pedagogy, and fun, conversational writing. In every chapter of this bestselling text, students will explore the latest developments and current events that are rapidly changing the media landscape. This newly revised Sixth Edition is packed with contemporary examples, engaging infographics, and compelling stories about the ways mass media shape our lives. From start to finish, students will learn the media literacy principles and critical thinking skills they need to become savvy media consumers.

Nanofabrication

A Brain Friendly Guide to OOA&D

Handbook of Structural Engineering

World Energy Outlook 2008

Leveraging E-government at a Time of Financial and Economic Crisis

Principles and Applications

Consumer Data Research

This book discusses and assesses the latest trends in the interactive mobile field, and presents the outcomes of the 12th International Conference on Interactive Mobile Communication Technologies and Learning (IMCL2018), which was held in Hamilton, Canada on October 11 and 12, 2018. Today, interactive mobile technologies are at the core of many - if not all - fields of society. Not only does the younger generation of students expect a mobile working and learning environment, but also the new ideas, technologies and solutions coming out practically every day are further strengthening this trend. Since its inception in 2006, the conference has been devoted to highlighting new approaches in interactive mobile technologies with a focus on learning. The IMCL conferences have since established themselves as a valuable forum for exchanging and discussing new research results and relevant trends, as well as practical experience and best-practice examples. This book contains papers in the fields of: Interactive Collaborative Mobile Learning Environments Mobile Health Care Training Game-based Learning Design of Internet of Things (IoT) Devices and Applications Assessment and Quality in Mobile Learning. Its potential readership includes policymakers, educators and researchers in pedagogy and learning theory, schoolteachers, the learning industry, further education lecturers, etc.

World Energy Outlook presents the International Energy Agency's authoritative annual global energy projections. This 2009 edition analyzes what the economic crisis will mean for energy markets and how the transition to a clean global energy system can be financed. It focuses on three specific areas: financing energy investment under a post 2012 climate framework, prospects for natural gas markets, and energy trends in Southeast Asia.

Multimedia Signals and Systems is primarily a technical introductory level multimedia textbook, including problems, examples, and MATLAB® codes. It will be a stepping-stone for readers who want to research in audio processing, image and video processing, and data compression. This book will also be useful to readers who are carrying out research and development in systems areas such as television engineering and storage media. Anyone who seeks to learn the core multimedia signal processing techniques and systems will need Multimedia Signals and Systems. There are many chapters that are generic in nature and provide key concepts of multimedia systems to technical as well as non-technical persons. There are also several chapters that provide a mathematical/ analytical framework for basic multimedia signal processing. The readers are expected to have some prior knowledge about discrete signals and systems, such as Fourier transform and digital filters. However, a brief review of these theories is provided.

Additional material for this book, including several MATLAB® codes along with a few test data samples; e.g., audio, image and video may be downloaded from <http://extras.springer.com>.

"World Energy Outlook 2008 draws on the experience of another turbulent year in energy markets to provide new energy projections to 2030, region by region and fuel by fuel, incorporating the latest data and policies. "

7th International Conference on Cryptology in India, Kolkata, India, December 11-13, 2006, Proceedings Hybrid Organic-Inorganic Interfaces

Proceedings of the 12th IMCL Conference

Proceedings of the Third International Conference on Simulation of Adaptive Behavior

Digitising the Industry

The Strategic Interaction of Successive Motivational States Within the Person

Game Coding Complete

Describes everyday classroom practices and exercises to help students in grades four through twelve read for accuracy, extract meaning from text, and interpret subject matter.

The natural, biological, medical, and related sciences would not be what they are today without the microscope. After the introduction of the optical microscope, a second breakthrough in morphostructural surface analysis occurred in the 1940s with the development of the scanning electron microscope (SEM), which, instead of light (i. e. , photons) and glass lenses, uses electrons and electromagnetic lenses (magnetic coils). Optical and scanning (or transmission) electron microscopes are called "far-field microscopes" because of the long distance between the sample and the point at which the image is obtained in comparison with the wavelengths of the photons or electrons involved. In this case, the image is a diffraction pattern and its resolution is wavelength limited. In 1986, a completely new type of microscopy was proposed, which, without the use of lenses, photons, or electrons, directly explores the sample surface by means of mechanical scanning, thus opening up unexpected possibilities for the morphostructural and mechanical analysis of biological specimens. These new scanning probe microscopes are based on the concept of near-field microscopy, which overcomes the problem of the limited diffraction-related resolution inherent in conventional microscopes. Located in the immediate vicinity of the sample itself (usually within a few nanometers), the probe records the intensity, rather than the interference signal, thus significantly improving resolution. Since the most well-known microscopes of this type operate using atomic forces, they are frequently referred to as atomic force microscopes (AFMs).

This book compiles some of the latest research in cooperation between robots and sensor networks. Structured in twelve chapters, this book addresses fundamental, theoretical, implementation and experimentation issues. The chapters are organized into four parts namely multi-robots systems, data fusion and localization, security and dependability, and mobility.

August 8-12, 1994, Brighton, England From Animals to Animats 3 brings together research intended to advance the frontier of an exciting new approach to understanding intelligence. The contributors represent a broad range of interests from artificial intelligence and robotics to ethology and the neurosciences. Unifying these approaches is the notion of "animat" -- an artificial animal, either simulated by a computer or embodied in a robot, which must survive and adapt in progressively more challenging environments. The 58 contributions focus particularly on well-defined models, computer simulations, and built robots in order to help characterize and compare various principles and architectures capable of inducing adaptive behavior in real or artificial animals. Topics include: - Individual and collective behavior. - Neural correlates of behavior. - Perception and motor control. - Motivation and emotion. - Action selection and behavioral sequences. - Ontogeny, learning, and evolution. - Internal world models and cognitive processes. - Applied adaptive behavior. - Autonomous robots. - Hierarchical and parallel organizations. - Emergent structures and behaviors. - Problem solving and planning. - Goal-directed behavior. - Neural networks and evolutionary computation. - Characterization of environments. A Bradford Book

Musical Sound Effects

Cooperative Robots and Sensor Networks 2015

Mechanics of Materials

Guide to Good Practice

Business Analytics: Data Analysis & Decision Making

The Next Generation of Production and Service Systems

Picoeconomics

Dr. Ainslie examines an elementary human paradox: that we are endangered by our own wishes.

Multicore Processors and Systems provides a comprehensive overview of emerging multicore processors and systems. It covers technology trends affecting multicores, multicore architecture innovations, multicore software innovations, and case studies of state-of-the-art commercial multicore systems. A cross-cutting theme of the book is the challenges associated with scaling up multicore systems to hundreds of cores. The book provides an overview of significant developments in the architectures for multicore processors and systems. It includes chapters on fundamental requirements for multicore systems, including processing, memory systems, and interconnect. It also includes several case studies on commercial multicore systems that have recently been developed and deployed across multiple application domains. The architecture chapters focus on innovative multicore execution models as well as infrastructure for multicores, including

memory systems and on-chip interconnections. The case studies examine multicore implementations across different application domains, including general purpose, server, media/broadband, network processing, and signal processing. *Multicore Processors and Systems* is the first book that focuses solely on multicore processors and systems, and in particular on the unique technology implications, architectures, and implementations. The book has contributing authors that are from both the academic and industrial communities.

Hybrid organic-inorganic materials and the rational design of their interfaces open up the access to a wide spectrum of functionalities not achievable with traditional concepts of materials science. This innovative class of materials has a major impact in many application domains such as optics, electronics, mechanics, energy storage, and conversion, protective coatings, catalysis, sensing, and nanomedicine. The properties of these materials do not only depend on the chemical structure, and the mutual interaction between their nano-scale building blocks, but are also strongly influenced by the interfaces they share. This handbook focuses on the most recent investigations concerning the design, control, and dynamics of hybrid organic-inorganic interfaces, covering: (i) characterization methods of interfaces, (ii) innovative computational approaches and simulation of interaction processes, (iii) in-situ studies of dynamic aspects controlling the formation of these interfaces, and (iv) the role of the interface for process optimization, devices, and applications in such areas as optics, electronics, energy, and medicine.

Big Data collected by customer-facing organisations – such as smartphone logs, store loyalty card transactions, smart travel tickets, social media posts, or smart energy meter readings – account for most of the data collected about citizens today. As a result, they are transforming the practice of social science. Consumer Big Data are distinct from conventional social science data not only in their volume, variety and velocity, but also in terms of their provenance and fitness for ever more research purposes. The contributors to this book, all from the Consumer Data Research Centre, provide a first consolidated statement of the enormous potential of consumer data research in the academic, commercial and government sectors – and a timely appraisal of the ways in which consumer data challenge scientific orthodoxies. Praise for Consumer Data Research 'An insightful, state-of-the-art guide into the social and commercial value of applying geographical thinking to the study of consumer data.' Professor Richard Harris, University of Bristol 'An excellent guide to leveraging the value of academic research on valid data. Partnerships based around consumer data should be encouraged and supported by all and their outputs used to better the way we manage the world we live in.' Bill Grimsey, retailer and author of *The Vanishing Highstreet* 'The use of data from everyday consumer transactions is a potential game-changer for understanding economic and social patterns and trends. This is an excellent overview of the field.' Dr. Tom Smith, Managing Director, Office for National Statistics Data Science Campus

Electrical Engineering

Solid State Batteries: Materials Design and Optimization

Progress in Cryptology - INDOCRYPT 2006

Guidelines for the Design of Footbridges

Mobile Technologies and Applications for the Internet of Things

Mass Communication

Hydrogel Sensors and Actuators

For decades performers, instrumentalists, composers, technicians and sound engineers continue to manipulate sound material. They are trying with more or less success to create, to innovate, improve, enhance, restore or modify the musical message. The sound of distorted guitar of Jimi Hendrix, Pierre Henry's concrete music, Pink Flyod's rock psychedelic, Kraftwerk 's electronic music, Daft Punk and rap T-Pain, have let emerge many effects: reverb, compression, distortion, auto-tune, filter, chorus, phasing, etc. The aim of this book is to introduce and explain these effects and sound treatments by addressing their theoretical and practical aspects.

The significantly expanded and updated new edition of a widely used text on reinforcement learning, one of the most active research areas in artificial intelligence. Reinforcement learning, one of the most active research areas in artificial intelligence, is a computational approach to learning whereby an agent tries to maximize the total amount of reward it receives while interacting with a complex, uncertain environment. In Reinforcement Learning, Richard Sutton and Andrew Barto provide a clear and simple account of the field's key ideas and algorithms. This second edition has been significantly expanded and updated, presenting new topics and updating coverage of other topics. Like the first edition, this second edition focuses on core online learning algorithms, with the more mathematical material set off in shaded boxes. Part I covers as much of reinforcement learning as possible without going beyond the tabular case for which exact solutions can be found. Many algorithms presented in this part are new to the second edition, including UCB, Expected Sarsa, and Double Learning. Part II extends these ideas to function approximation, with new sections on such topics as artificial neural networks and the Fourier basis, and offers expanded treatment of off-policy learning and policy-gradient methods. Part III has new chapters on reinforcement learning's relationships to psychology and neuroscience, as well as an updated case-studies chapter including AlphaGo and AlphaGo Zero, Atari game playing, and IBM Watson's wagering strategy. The final chapter discusses the future societal impacts of reinforcement learning.

CD-ROMs contains: 2 CDs, "one contains the Student Edition of LabView 7 Express, and the other contains OrCAD Lite 9.2."

The theme of 2010 Survey is how to leverage e-Government in the current financial and economic crisis. The crisis presents a major challenge for UN Member States' attainment of national development goals. Half way through the MDGs, it is important to help enhance their crisis response. In this very context that the Survey explores the potential of e-Government, focusing on its relationship with government spending such as stimulus funding, integrity and efficiency in financial monitoring, and public service delivery. As in the previous Surveys, it assesses e-readiness of Member States

according to a number of criteria in an analysis conducted every two years. The Member States are ranked, most of all, on the basis of each Member State's use of the Internet and the World Wide Web (WWW) for the provision of information, products and services; plus the level of telecommunication and human capital infrastructure development. The prime focus of the Survey will remain the Web Measure Index based on an extensive analysis of government national web portals/sites and ministries. Assessment of the e-Government readiness of the 192 Member States according to quantitative index of e-Readiness based on website assessment, tele-communication infrastructure and human capital.

Literacy Strategies for Grades 4-12

Engineering and Technology

The McKinsey Engagement: A Powerful Toolkit For More Efficient and Effective Team Problem Solving

World Energy Outlook 2009

Towards Advanced Functional Materials

The field of solid state ionics is multidisciplinary in nature. Chemists, physicists, electrochemists, and engineers all are involved in the research and development of materials, techniques, and theoretical approaches. This science is one of the great triumphs of the second part of the 20th century. For nearly a century, development of materials for solid-state ionic technology has been restricted. During the last two decades there have been remarkable advances: more materials were discovered, modern technologies were used for characterization and optimization of ionic conduction in solids, trial and error approaches were deserted for defined predictions. During the same period fundamental theories for ion conduction in solids appeared. The large explosion of solid-state ionic material science may be considered to be due to two other influences. The first aspect is related to economy and connected with energy production, storage, and utilization. There are basic problems in industrialized countries from the economical, environmental, political, and technological points of view. The possibility of storing a large amount of utilizable energy in a comparatively small volume would make a number of non-conventional intermittent energy sources of practical convenience and cost. The second aspect is related to huge increase in international relationships between researchers and exchanges of results make considerable progress between scientists; one find many institutes joined in common search programs such as the material science networks organized by EEC in the European countries.

This book presents the conference proceedings of the 25th edition of the International Joint Conference on Industrial Engineering and Operations Management. The conference is organized by 6 institutions (from different countries and continents) that gather a large number of members in the field of operational management, industrial engineering and engineering management. This edition of the conference had the title: THE NEXT GENERATION OF PRODUCTION AND SERVICE SYSTEMS in order to emphasis unpredictable and very changeable future. This conference is aimed to enhance connection between academia and industry and to gather researchers and practitioners specializing in operation management, industrial engineering, engineering management and other related disciplines from around the world.