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Delineating the proper design, layout, and location of facilities, this book strikes a healthy balance between theory and practice. It provides an understanding of the practical aspects of implementing preliminary designs development through analytical models. The third edition of a bestseller, it features updated multimedia tools, new software, an

In this volume – drawn on experience at Italian universities – the authors infer upon the quality of the education achieved by graduates by surveying their transition to work and further professional paths. Papers are presented on the effectiveness of university education, on employability of graduates, with a discussion on considering the employment rate as the main assessment indicator, on competence analysis for backward assessment purposes and finally on university human capital indicators.

This book constitutes the refereed proceedings of the First International Conference on Advanced Data Mining and Applications, ADMA 2005, held in Wuhan, China in July 2005. The conference was focused on sophisticated techniques and tools that can handle new fields of data mining, e.g. spatial data mining, biomedical data mining, and mining on high-speed and time-variant data streams; an expansion of data mining to new applications is also strived for. The 25 revised full papers and 75 revised short papers presented were carefully peer-reviewed and selected from over 600 submissions. The papers are organized in topical sections on association rules,

classification, clustering, novel algorithms, text mining, multimedia mining, sequential data mining and time series mining, web mining, biomedical mining, advanced applications, security and privacy issues, spatial data mining, and streaming data mining.

This is a collection of peer-reviewed papers originally presented at the 19th Australasian Conference on the Mechanics of Structures and Materials by academics, researchers and practitioners largely from Australasia and the Asia-Pacific region. The topics under discussion include: composite structures and materials; computational mechanics; dynamic analysis of structures; earthquake engineering; fire engineering; geomechanics and foundation engineering; mechanics of materials; reinforced and prestressed concrete structures; shock and impact loading; steel structures; structural health monitoring and damage identification; structural mechanics; and timber engineering. It is a valuable reference for academics, researchers, and civil and mechanical engineers working in structural and material engineering and mechanics.

Foundations of Genetic Algorithms, Volume 2 provides insight of theoretical work in genetic algorithms. This book provides a general understanding of a canonical genetic algorithm. Organized into six parts encompassing 19 chapters, this volume begins with an overview of genetic algorithms in the broader adaptive systems context. This text then reviews some results in mathematical genetics that use probability distributions to characterize the effects of recombination on multiple loci in the absence of selection. Other chapters examine

the static building block hypothesis (SBBH), which is the underlying assumption used to define deception. This book discusses as well the effect of noise on the quality of convergence of genetic algorithms. The final chapter deals with the primary goal in machine learning and artificial intelligence, which is to dynamically and automatically decompose problems into simpler problems to facilitate their solution. This book is a valuable resource for theorists and genetic algorithm researchers.

This book constitutes the refereed proceedings of the 10th International Workshop on Multiple Classifier Systems, MCS 2011, held in Naples, Italy, in June 2011. The 36 revised papers presented together with two invited papers were carefully reviewed and selected from more than 50 submissions. The contributions are organized into sessions dealing with classifier ensembles; trees and forests; one-class classifiers; multiple kernels; classifier selection; sequential combination; ECOC; diversity; clustering; biometrics; and computer security.

Automatic Text Categorization and Clustering are becoming more and more important as the amount of text in electronic format grows and the access to it becomes more necessary and widespread. Well known applications are spam filtering and web search, but a large number of everyday uses exist (intelligent web search, data mining, law enforcement, etc.) Currently, researchers are employing many intelligent techniques for text categorization and clustering, ranging from support vector machines and neural networks to

Bayesian inference and algebraic methods, such as Latent Semantic Indexing. This volume offers a wide spectrum of research work developed for intelligent text categorization and clustering. In the following, we give a brief introduction of the chapters that are included in this book.

This reference and guidebook offers illustrations, descriptions, and measurements for the skulls of some 275 animal species found throughout North America. The skull is the key anatomical feature used to identify an animal and understand many of its behaviors. This book describes in words and pictures the bones and regions of the skull important to identification, including illustrations of all the bones in the cranium, leading to a greater understanding of a creature's place in the natural world. With life-size drawings, this guide is a reference for wildlife professionals, trackers, and animal-lovers. Modeling hydrologic changes and predicting their impact on watersheds is a dominant concern for hydrologists and other water resource professionals, civil and environmental engineers, and urban and regional planners. As such changes continue, it becomes more essential to have the most up-to-date tools with which to perform the proper analyses and modeling of the complex ecology, morphology, and physical processes that occur within watersheds. An application-oriented text, Modeling Hydrologic Change: Statistical Methods provides a step-by-step presentation of modeling procedures to help you properly analyze and model real-world data. The text addresses modeling systems where change has affected data that will be used to calibrate

and test models of the system. The use of actual hydrologic data will help you learn how to handle the vagaries of real-world hydrologic-change data. All four elements of the modeling process are discussed: conceptualization, formulation, calibration, and verification. Although the book is oriented towards the statistical aspects of modeling, a strong background in statistics is not required. The statistical and modeling methods discussed here will be of value to all disciplines involved in modeling change. With approximately 100 illustrations, Modeling Hydrologic Change will equip you with an understanding with which to perform the proper analyses and modeling of the complex processes that occur across various disciplines.

Containing all new material and published for the American Dialect Society's centennial celebration (1889-1989), this volume bings together in one place, as no previously published work has, current approaches to the general problems of language distribution and variation. The several chapters offer accounts of how questions are formulated and how data are collected, stored, and intepreted in the various research traditions of dialectology and sociolinguistics, particularly as they have been carried out by researchers associated with the American Dialect Society. More specifically, this book takes trips to the scholar's laboratory. How is this work done? What pitfalls in fieldwork, processing, and interpretation have been encountered and how have they been overcome? What techniques have been used to get at the facts and underlying explanations of language variety? What does recent work suggest about the most

rewarding areas and methods for future investigation? Using a simple yet rigorous approach, Algebraic and Stochastic Coding Theory makes the subject of coding theory easy to understand for readers with a thorough knowledge of digital arithmetic, Boolean and modern algebra, and probability theory. It explains the underlying principles of coding theory and offers a clear, detailed description of each code. More advanced readers will appreciate its coverage of recent developments in coding theory and stochastic processes. After a brief review of coding history and Boolean algebra, the book introduces linear codes, including Hamming and Golay codes. It then examines codes based on the Galois field theory as well as their application in BCH and especially the Reed–Solomon codes that have been used for error correction of data transmissions in space missions. The major outlook in coding theory seems to be geared toward stochastic processes, and this book takes a bold step in this direction. As research focuses on error correction and recovery of erasures, the book discusses belief propagation and distributions. It examines the low-density parity-check and erasure codes that have opened up new approaches to improve wide-area network data transmission. It also describes modern codes, such as the Luby transform and Raptor codes, that are enabling new directions in high-speed transmission of very large data to multiple users. This robust, self-contained text fully explains coding problems, illustrating them with more than 200 examples. Combining theory and computational techniques, it will appeal not only to students but also to industry

professionals, researchers, and academics in areas such as coding theory and signal and image processing. Since the publication of the first edition, miniaturization and nanotechnology have become inextricably linked to traditional surface geometry and metrology. This interdependence of scales has had profound practical implications.Updated and expanded to reflect many new developments, Handbook of Surface and Nanometrology, Second Edition determines h "This book aims to describe recent findings and emerging techniques that use intelligent systems (particularly integrated and hybrid paradigms) in engineering design, and examples of applications. The goal is to take a snapshot of progress relating to research into systems for supporting design and to disseminate the way in which recent developments in integrated, knowledge-intensive, and computational AI techniques can improve and enhance such support. The selected articles provide an integrated, holistic perspective on this complex set of challenges and provide rigorous research results. The focus of this publication is on the integrated intelligent methodologies, frameworks and systems for supporting engineering design activities. The subject pushes the boundaries of the traditional topic of engineering design into new areas. The book is of interest to researchers, graduate students and practicing engineers involved in engineering design and applications using integrated intelligent techniques. In addition, managers and others can use it to obtain an overview of the subject, and gain a view about the applicability of this technology to their business. As AI

and intelligent systems technologies are fast evolving, the editors hope that this book can serve as a useful insight to the readers on the state-of-the-art applications and developments of such techniques at the time of compilation."

Advances in Biotechnology, Volume IV: Current Developments in Yeast Research covers the proceedings of the Fifth International Yeast Symposium. The book presents several papers that discuss several aspects of yeast. Comprised of 95 chapters and organized into eight sections, the book first discusses the industrial and agricultural uses of yeast, and then covers genetics. The third section reviews sporulation and conjugation. Section IV tackles biochemistry, while Section V and Section VI talk about taxonomy, ecology, and cell cycle. The seventh section covers the Phaff symposium and the last section reviews the plenary lectures. The book will be of great interest to researchers and professionals such as botanists and agriculturists who have an interest in understanding the various aspects of yeast.

This book describes various ways of approaching and interpreting the data produced by clinical trial studies, with a special emphasis on the essential role that biostatistics plays in clinical trials. Over the past few decades the role of statistics in the evaluation and interpretation of clinical data has become of paramount importance. As a result the standards of clinical study design, conduct and interpretation have undergone substantial improvement. The book includes 18 carefully reviewed chapters on recent developments in clinical

trials and their statistical evaluation, with each chapter providing one or more examples involving typical data sets, enabling readers to apply the proposed procedures. The chapters employ a uniform style to enhance comparability between the approaches.

Since the first edition of this book, the literature on fitted mesh methods for singularly perturbed problems has expanded significantly. Over the intervening years, fitted meshes have been shown to be effective for an extensive set of singularly perturbed partial differential equations. In the revised version of this book, the reader will find an introduction to the basic theory associated with fitted numerical methods for singularly perturbed differential equations. Fitted mesh methods focus on the appropriate distribution of the mesh points for singularly perturbed problems. The global errors in the numerical approximations are measured in the pointwise maximum norm. The fitted mesh algorithm is particularly simple to implement in practice, but the theory of why these numerical methods work is far from simple. This book can be used as an introductory text to the theory underpinning fitted mesh methods.

This volume contains the papers presented at the 14th SDL Forum, Bochum, Germany entitled Design for Motes and Mobiles. The SDL Forum has been held every two years for the last three decades and is one of the most important open events in the calendar for anyone from academia or industry involved in System DesignLanguagesandmodelling technologies. It is a primary conference event for discussion of the evolution and use of these languages. The most recent

innovations, trends, experiences, and concerns in the ?eld are discussed and presented. The SDL Forum series addresses issues related to the modelling and analysis of reactive systems, distributed systems, and real-time and complex systems such as telecommunications, automotive, and aerospace applications. The intended audience of the series includes users of modelling techniques in industrial, research, and standardization contexts, as well as tool vendors and language researchers. Of course, during the last three decades languages, associated methods, and tools have evolved and new ones have been developed. The application domain haschangedalmostbeyondrecognition. Threedecadesagothemobiletechnology of today was science ?ction, whereas now we ?nd software systems embedded in inexpensive childrens' toys. More recently multi-core processors have become common technology for consumer computers, and are beginning to be applied in smalldevices. Eveninsmallco-operating,independently poweredremotedevices (such as motes and mobile phones), there is enough memory and processing power to support quite sophisticated operating systems and applications.

This edition of the OECD Business and Finance Outlook focuses on fragmentation: the inconsistent structures, policies, rules, laws and industry practices that appear to be blocking business efficiency and productivity growth. This book offers guided access to a collection of algorithms for the digital manipulation and analysis of images. Written in classic 'cookbook' style, it

reflects the authors' long experience in this field. For each task, they present a description and implementation of the most suitable procedure in easy-to-use form. The algorithms range from the simplest steps to advanced functions not commonly available for Windows users. Each self-contained section treats a single operation, describing typical situations requiring that operation and discussing the algorithm and implementation. Sections start with a header illustrating the nature of the procedure through a 'before' and 'after' pictorial example and a ready-reference listing typical applications, keywords, and related procedures. At the end of each section are annotated references and a display of program usage for the C programs on the accompanying CD-ROM. Every researcher or practitioner working with images will need this reference and software library.

This last issue for 2005 comprises seven new papers, including a contribution to the journal's occasional Special Data Section about domestic debt markets in Sub-Saharan Africa, and also an in-depth look at the internal job market for entry-level economists at the IMF. The remaining articles cover toics as diverse as: modeling of asset markets, exchange rates in developing countries, international bank claims on Latin America, the effectiveness of "early warning" systems, and the use (by emerging market countries) of the IMF's Special Data

Dissemination Standard (SDDS).

Challenges, Opportunities and Solutions in Structural Engineering and Construction addresses the latest developments in innovative and integrative technologies and solutions in structural engineering and construction, including: Concrete, masonry, steel and composite structures; Dynamic impact and earthquake engineering; Bridges and special structures; Structural optimization and computation; Construction materials; Construction methods and management; Construction maintenance and infrastructure; Organizational behavior; Sustainability and energy conservation; Engineering economics; Information technology; Geotechnical engineering, foundation and tunneling. The book appeals to structural and construction engineers, architects, academics, researchers, students and those involved in the building and construction industry.

This book includes a range of techniques for developing digital signal processing code; tips and tricks for optimizing DSP software; and various options available for constructing DSP systems from numerous software components.

Service level agreements guaranteeing quality of service have helped your organization to keep old customers and win new ones over. Although it may be easy for the sales department to ink a service level agreement, you have to handle the constant problems of phase fluctuations, jitter, and wander,

that threaten the quality of service spelled out in these service level agreements.

Offering comprehensive, cutting-edge coverage, THE ATMEL AVR MICROCONTROLLER: MEGA AND XMEGA IN ASSEMBLY AND C delivers a systematic introduction to the popular Atmel 8-bit AVR microcontroller with an emphasis on the MEGA and XMEGA subfamilies. It begins with a concise and complete introduction to the assembly language programming before progressing to a review of C language syntax that helps with programming the AVR microcontroller. Emphasis is placed on a wide variety of peripheral functions useful in embedded system design. Vivid examples demonstrate the applications of each peripheral function, which are programmed using both the assembly and C languages. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Arti?cial intelligence has attracted a renewed interest from distinguished sci- tists and has again raised new, more realistic this time, expectations for future advances regarding the development of theories, models and techniques and the use of them in applications pervading many areas of our daily life. The borders of human-level intelligence are still very far away and possibly unknown. Nev- theless, recent scienti?c work inspires us to work even harder in our

exploration of the unknown lands of intelligence. This volume contains papers selected for presentation at the 3rd Hellenic Conference on Arti?cial Intelligence (SETN 2004), the o?cial meeting of the Hellenic Society for Arti?cial Intelligence (EETN). The ?rst meeting was held in the University of Piraeus, 1996 and the second in the Aristotle University of Thessaloniki (AUTH), 2002. SETN conferences play an important role in the dissemination of the in-vative and high-quality scienti?c results in arti?cial intelligence which are being produced mainly by Greek scientists in institutes all over the world. However, the most important e?ect of SETN conferences is that they provide the context in which people meet and get to know each other, as well as a very good opp- tunity for students to get closer to the results of innovative arti?cial intelligence research.

This third edition of a classic textbook can be used to teach at the senior undergraduate and graduate levels. The material concentrates on fundamental theories as well as techniques and algorithms. The advent of the Internet and the World Wide Web, and, more recently, the emergence of cloud computing and streaming data applications, has forced a renewal of interest in distributed and parallel data management, while, at the same time, requiring a rethinking of some of the traditional techniques. This book covers the breadth and depth of this re-

emerging field. The coverage consists of two parts. The first part discusses the fundamental principles of distributed data management and includes distribution design, data integration, distributed query processing and optimization, distributed transaction management, and replication. The second part focuses on more advanced topics and includes discussion of parallel database systems, distributed object management, peer-to-peer data management, web data management, data stream systems, and cloud computing. New in this Edition: • New chapters, covering database replication, database integration, multidatabase query processing, peer-to-peer data management, and web data management. • Coverage of emerging topics such as data streams and cloud computing • Extensive revisions and updates based on years of class testing and feedback Ancillary teaching materials are available. This book includes numerous calculations for the many specific examples included within. I have included the many calculated examples to provide the reader with immediate justifications for the numerous concepts described. This was not done to belittle or talk down to the reader but rather to give the reader a clear sense of the plausibility for the propulsion methods and performance capabilities thereof. Interstellar travel at the many specific highly relativistic velocities contemplated in this bookand, in some cases, extreme vehicle massesis still a very

controversial subject but nonetheless a highly mathematicalized and intelligible subject. My hope and intention is to thus clearly inspire and show the reader the plausibility of the concepts by providing the reader with proper evidence through his or her simple inspection of the formulas and values included in the computations. Some speculative physics is included, which is based on commonly presented theoretical constructs.

Readings in Fuzzy Sets for Intelligent Systems is a collection of readings that explore the main facets of fuzzy sets and possibility theory and their use in intelligent systems. Basic notions in fuzzy set theory are discussed, along with fuzzy control and approximate reasoning. Uncertainty and informativeness, information processing, and membership, cognition, neural networks, and learning are also considered. Comprised of eight chapters, this book begins with a historical background on fuzzy sets and possibility theory, citing some forerunners who discussed ideas or formal definitions very close to the basic notions introduced by Lotfi Zadeh (1978). The reader is then introduced to fundamental concepts in fuzzy set theory, including symmetric summation and the setting of fuzzy logic; uncertainty and informativeness; and fuzzy control. Subsequent chapters deal with approximate reasoning; information processing; decision and management

sciences; and membership, cognition, neural networks, and learning. Numerical methods for fuzzy clustering are described, and adaptive inference in fuzzy knowledge networks is analyzed. This monograph will be of interest to both students and practitioners in the fields of computer science, information science, applied mathematics, and artificial intelligence.

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