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Knowledge-Based and Intelligent Information and Engineering Systems Juan D. Velásquez 2009-09-18 The two-volume set LNAI 5711 and LNAI 5712 constitutes the refereed proceedings of the 13th International Conference on Knowledge-Based Intelligent Information and Engineering Sysetms, KES 2009, held in Santiago de Chile in September 2009. The 153 revised papers presented were carefully reviewed and selected from numerous submissions. The topics covered are: fuzzy and neuro-fuzzy systems, agent systems, knowledge based and expert systems, miscelleanous generic intelligent systems topics, intelligent vision and image processing, knowledge management, ontologies and data mining, web intelligence, text and multimedia mining and retrieval, other advanced knowledge-based systems, innovations in chance discovery, advanced knowledge-based systems, multi-agent negotiation and coordination, innovations in intelligent systems, intelligent technology approach to management engineering, data mining and service science for innovation, knowledge-based systems for e-business, video surveillance, social networks, advanced engineering design techniques for adaptive systems, knowledge technology in learning support, advanced information system for supporting personal activity, design of intelligent society, knowledge-based interface systems, knowledge-based multi-criteria decision support, soft computing techniques and their applications, immunity-based systems. The book also includes three keynote speaker plenary presentations.

Journal of the Institution of Engineers (India). 1988

19th International Conference on Data Engineering Umeshwar Dayal 2003 Papers from a spring 2004 conference present theoretical and practical research in database management systems and data-centric applications. Research sessions describe recent results in indexing, semi-structured data and XML, data mining, query processing, distributed and parallel programming, spat

Computer Sciences Technical Report 1993

Applied Soft Computing and Embedded System Applications in Solar Energy Rupendra Kumar Pachauri 2021-05-27 Applied Soft Computing and Embedded System Applications in Solar Energy deals with energy systems and soft computing methods from a wide range of approaches and application perspectives. The authors examine how embedded system applications can deal with the smart monitoring and controlling of stand-alone and grid-connected solar photovoltaic (PV) systems for increased efficiency. Growth in the area of artificial intelligence with embedded system applications has led to a new era in computing, impacting almost all fields of science and engineering. Soft computing methods implemented to energy-related problems regularly face data-driven issues such as problems of optimization, classification, clustering, or prediction. The authors offer real-time implementation of soft computing and embedded system in the area of solar energy to address the issues with microgrid and smart grid projects (both renewable and non-renewable generations), energy management, and power regulation. They also discuss and examine alternative solutions for energy capacity assessment, energy efficiency systems design, as well as other specific smart grid energy system applications. The book is intended for students, professionals, and researchers in electrical and computer engineering fields, working on renewable energy resources, microgrids, and smart grid projects. Examines the integration of hardware with stand-alone PV panels and real-time monitoring of factors affecting the efficiency of the PV panels Offers real-time implementation of soft computing and embedded system in the area of solar energy Discusses how soft computing plays a huge role in the prediction of efficiency of stand-alone and grid-connected solar PV systems Discusses how embedded system applications with smart monitoring can control and enhance the efficiency of stand-alone and grid-connected solar PV systems Explores swarm intelligence techniques for solar PV parameter estimation Dr. Rupendra Kumar Pachauri is Assistant Professor - Selection Grade in the Department of Electrical and Electronics Engineering, University of Petroleum and Energy Studies (UPES), Dehradun, India. Dr. Jitendra Kumar Pandey is Professor & Head of R&D in the University of Petroleum and Energy Studies (UPES), Dehradun, India. Mr. Abhishek Sharma is working as a research scientist in the research and development department (UPES, India). Dr. Om Prakash Nautiyal is working as a scientist in Uttarakhand Science Education & Research Centre (USERC), Department of Information and Science Technology, Govt. of Uttarakhand, Dehradun, India. Prof. Mangey Ram is working as a Research Professor at Graphic Era Deemed to be University, Dehradun, India.

Proceedings International Computer Software & Applications Conference 1986

Client Data Caching Michael J. Franklin 2012-12-06 Despite the significant ongoing work in the development of new database systems, many of the basic architectural and performance tradeoffs involved in their design have not previously been explored in a systematic manner. The designers of the various systems have adopted a wide range of strategies in areas such as process structure, client-server interaction, concurrency control, transaction management, and memory management. This monograph investigates several fundamental aspects of the emerging generation of database systems. It describes and investigates implementation techniques to provide high performance and scalability while maintaining the transaction semantics, reliability, and availability associated with more traditional database architectures. The common theme of the techniques developed here is the exploitation of client resources through caching-based data replication. Client Data Caching: A Foundation for High Performance Object Database Systems should be a value to anyone interested in the performance and architecture of distributed information systems in general and Object-based Database Management Systems in particular. It provides useful information for designers of such systems, as well as for practitioners who need to understand the inherent tradeoffs among the architectural alternatives in order to evaluate existing systems. Furthermore, many of the issues addressed in this book are relevant to other systems beyond the ODBMS domain. Such systems include shared-disk parallel database systems, distributed file systems, and distributed virtual memory systems. The presentation is suitable for practitioners and advanced students in all of these areas, although a basic understanding of database transaction semantics and techniques is assumed.

Proceedings 9 1985

New Materials in Civil Engineering Pijush Samui 2020-07-07 New Materials in Civil Engineering provides engineers and scientists with the tools and methods needed to meet the challenge of designing and constructing more resilient and sustainable infrastructures. This book is a valuable guide to the properties, selection criteria, products, applications, lifecycle and recyclability of advanced materials. It presents an A-to-Z approach to all types of materials, highlighting their key performance properties, principal characteristics and applications. Traditional materials covered include concrete, soil, steel, timber, fly ash, geosynthetic, fiber-reinforced concrete, smart materials, carbon fiber and reinforced polymers. In addition, the book covers nanotechnology and biotechnology in the development of new materials. Covers a variety of materials, including fly ash, geosynthetic, fiber-reinforced concrete, smart materials, carbon fiber reinforced polymer and waste materials Provides a "one-stop resource

of information for the latest materials and practical applications Includes a variety of different use case studies

Transformer Engineering S.V. Kulkarni 2012-09-06 Transformer Engineering: Design, Technology, and Diagnostics, Second Edition helps you design better transformers, apply advanced numerical field computations more effectively, and tackle operational and maintenance issues. Building on the bestselling Transformer Engineering: Design and Practice, this greatly expanded second edition also emphasizes diagnostic aspects and transformer-system interactions. What's New in This Edition Three new chapters on electromagnetic fields in transformers, transformer-system interactions and modeling, and monitoring and diagnostics An extensively revised chapter on recent trends in transformer technology An extensively updated chapter on short-circuit strength, including failure mechanisms and safety factors A step-by-step procedure for designing a transformer Updates throughout, reflecting advances in the field A blend of theory and practice, this comprehensive book examines aspects of transformer engineering, from design to diagnostics. It thoroughly explains electromagnetic fields and the finite element method to help you solve practical problems related to transformers. Coverage includes important design challenges, such as eddy and stray loss evaluation and control, transient response, short-circuit withstand and strength, and insulation design. The authors also give pointers for further research. Students and engineers starting their careers will appreciate the sample design of a typical power transformer. Presenting in-depth explanations, modern computational techniques, and emerging trends, this is a valuable reference for those working in the transformer industry, as well as for students and researchers. It offers guidance in optimizing and enhancing transformer design, manufacturing, and condition monitoring to meet the challenges of a highly competitive market.

Artificial Intelligence and Evolutionary Computations in Engineering Systems Subhransu Sekhar Dash 2016-02-05 The book is a collection of high-quality peer-reviewed research papers presented in the first International Conference on International Conference on Artificial Intelligence and Evolutionary Computations in Engineering Systems (ICAIECES -2015) held at Velammal Engineering College (VEC), Chennai, India during 22 – 23 April 2015. The book discusses wide variety of industrial, engineering and scientific applications of the emerging techniques. Researchers from academic and industry present their original work and exchange ideas, information, techniques and applications in the field of Communication, Computing and Power Technologies.

Big Data Analytics in Future Power Systems Ahmed F. Zobaa 2018-08-14 Power systems are increasingly collecting large amounts of data due to the expansion of the Internet of Things into power grids. In a smart grids scenario, a huge number of intelligent devices will be connected with almost no human intervention characterizing a machine-to-machine scenario, which is one of the pillars of the Internet of Things. The book characterizes and evaluates how the emerging growth of data in communications networks applied to smart grids will impact the grid efficiency and reliability. Additionally, this book discusses the various security concerns that become manifest with Big Data and expanded communications in power grids. Provide a general description and definition of big data, which has been gaining significant attention in the research community. Introduces a comprehensive overview of big data optimization methods in power system. Reviews the communication devices used in critical infrastructure, especially power systems; security methods available to vet the identity of devices; and general security threats in CI networks. Presents applications in power systems, such as power flow and protection. Reviews electricity theft concerns and the wide variety of data-driven techniques and applications developed for electricity theft detection.

Bootstrap Techniques for Signal Processing Abdelhak M. Zoubir 2004-05-06 This book is about the foundations of the bootstrap, a powerful tool in signal processing, and its properties, strengths, and limitations. Focused on bootstrap signal detection in Gaussian and non-Gaussian interference as well as bootstrap model selection, the theory developed by the authors is supported by practical examples written in MATLAB. Aimed at graduate students and engineers, the book includes applications to problems in radar and sonar, biomedical engineering, and automotive engineering.

POWER SYSTEM ANALYSIS S. RAMAR 2013-03-25 Designed primarily as a textbook for senior undergraduate students pursuing courses in Electrical and Electronics Engineering, this book gives the basic knowledge required for power system planning, operation and control. The contents of the book are presented in simple, precise and systematic manner with lucid explanation so that the readers can easily understand the underlying principles. The book deals with the per phase analysis of balanced three-phase system, per unit values and application including modelling of generator, transformer, transmission line and loads. It explains various methods of solving power flow equations and discusses fault analysis (balanced and unbalanced) using bus impedance matrix. It describes various concepts of power system stability and explains numerical methods such as Euler method, modified Euler method and Runge–Kutta methods to solve Swing equation. Besides, this book includes flow chart for computing symmetrical and unsymmetrical fault current, power flow studies and for solving Swing equation. It is also fortified with a large number of solved numerical problems and short–answer questions with answers at the end of each chapter to reinforce the students understanding of concepts. This textbook would also be useful to the postgraduate students of power systems engineering as a reference.

Journal of the Institution of Telecommunication Engineers Institution of Telecommunication Engineers (India) 1970

Industrial Electronics and Control BISWANATH PAUL 2014-06-30 The third edition of the book on Industrial Electronics and Control including Programmable Logic Controller is aimed at providing an explicit explanation of the mode of operation of different electronic power devices in circuits and systems that are in wide use today in modern industry for the control and conversion of electric power. The book strives to fulfil this need for a fundamental treatment that allows students to understand all aspects of circuit functions through its neatly-drawn illustrations and wave diagrams. Several colour diagrams are included to explain difficult circuits and waveforms. This approach will help students in assimilating the operation of power electronics circuits with more clarity. Same as in previous editions, the book commences with a discussion on rectifiers, differential amplifiers, operational amplifiers, multivibrators, timers and goes on to provide in-depth coverage of power devices and power electronics circuits such as silicon controlled rectifiers (SCRs), inverters, dual converters, choppers, cycloconverters and their applications in the control of ac/dc motors, and heating and welding processes. The book also presents an overview of the modern developments in the field of optoelectronics and fibre optics. Finally, the book ends with a discussion on Programmable Logic Controller (PLC). The book has an added advantage of multiple-choice questions, true/false statements, review questions and numerical problems at the end of each chapter, designed to reinforce the student's understanding of the concepts and mathematical derivations introduced in the text. The book is intended as a textbook for polytechnic students pursuing courses in electrical engineering, electronics and communication engineering, and electronics and instrumentation engineering. This tailor-made book with its exhaustive explanations of circuit operations and its student-friendly approach should prove to be a boon to the students and teachers alike. AUDIENCE: Polytechnic Students - pursuing courses in Electrical Engineering, Electronics and Communication Engineering, and Electronics and Instrumentation Engineering

Engineering Applications of Neural Networks Lazaros S. Iliadis 2011-09-15 The two-volume set IFIP AICT 363 and 364 constitutes the refereed proceedings of the 12th International Conference on Engineering Applications of Neural Networks, EANN 2011, and the 7th IFIP WG 12.5 International Conference, AIAI 2011, held jointly in Corfu, Greece, in September 2011. The 52 revised full papers and 28 revised short papers presented together with 31 workshop papers were carefully reviewed and selected from 150 submissions. The first volume includes the papers that were accepted for presentation at the EANN 2011 conference. They are organized in topical sections on computer vision and robotics, self organizing maps, classification/pattern recognition, financial and management applications of AI, fuzzy systems, support vector machines, learning and novel algorithms, reinforcement and radial basis function ANN, machine learning, evolutionary genetic algorithms optimization, Web applications of ANN, spiking ANN, feature extraction minimization, medical applications of AI, environmental and earth applications of AI, multi layer ANN, and bioinformatics. The volume also contains the accepted papers from the Workshop on Applications of Soft Computing to Telecommunication (ASCOTE 2011), the Workshop on Computational Intelligence Applications in Bioinformatics (CIAB 2011), and the Second Workshop on Informatics and Intelligent Systems Applications for Quality of Life Information Services (ISQLIS 2011).

Futuristic Trends in Numerical Relaying for Transmission Line Protections Ujjaval Patel 2020-10-17 This book presents the state-of-the-art

approach for transmission line protection schemes for smart power grid. It provides a comprehensive solution for real-time development of numerical relaying schemes for future power grids which can minimize cascade tripping and widespread blackout problems prevailing all around the world. The book also includes the traditional approach for transmission line protection along with issues and challenges in protection philosophy. It highlights the issues for sheltering power grid from unwanted hazards with very fundamental approach. The book follows a step-by-step approach for resolving critical issues like high impedance faults, power swing detection and auto-reclosing schemes with adaptive protection process. The book also covers the topic of hardware solution for real-time implementation of auto-reclosing scheme for transmission line protection schemes along with comparative analysis with the recently developed analytical approach such as Artificial Neural Network (ANN), Support Vector Machine (SVM) and other machine learning algorithms. It will be useful to researchers and industry professionals and students in the fields of power system protection.

DIGITAL POWER SYSTEM PROTECTION S. R. BHIDE 2014-10-01 Digital power system protection, as a subject, offers the use of computers in power line relaying which is the act of automatically controlling the power system via instrumentation and control devices. This book is an attempt to make a gentle introduction to the nitty-gritty of digital relays. Written in a simple, clear and student-friendly style, this text covers basics of digital processing of analog signals for the purpose of relaying. All important basic algorithms that are used in various types of digital relays have been explained. FIR and IIR filters have been presented in such a manner that students will be able to develop intuitive understanding. The book also covers DFT and FFT and synchrophasor technology in details. MATLAB programs and Excel simulations have been given to reinforce the comprehension of the algorithms. This book has been thoroughly class-room tested and based on course notes which is primarily intended for undergraduate and postgraduate students of electrical engineering. Key Features • In-depth coverage of DSP fundamentals • Pedagogical tools like figures, flowcharts, block diagrams and tables have been extensively used • Review questions are given at the end of each chapter • Extensive references to literature on power system protection

Artificial Intelligence Applications in Electrical Transmission and Distribution Systems Protection Almoataz Y. Abdelaziz 2021-10-22 Artificial intelligence (AI) can successfully help in solving real-world problems in power transmission and distribution systems because AI-based schemes are fast, adaptive, and robust and are applicable without any knowledge of the system parameters. This book considers the application of AI methods for the protection of different types and topologies of transmission and distribution lines. It explains the latest pattern-recognition-based methods as applicable to detection, classification, and location of a fault in the transmission and distribution lines, and to manage smart power systems including all the pertinent aspects. FEATURES Provides essential insight on uses of different AI techniques for pattern recognition, classification, prediction, and estimation, exclusive to power system protection issues Presents an introduction to enhanced electricity system analysis using decision-making tools Covers AI applications in different protective relaying functions Discusses issues and challenges in the protection of transmission and distribution systems Includes a dedicated chapter on case studies and applications This book is aimed at graduate students, researchers, and professionals in electrical power system protection, stability, and smart grids.

Web Information Systems - WISE 2006 Karl Aberer 2006-10-10 This book constitutes the proceedings of the 7th International Conference on Web Information Systems Engineering, WISE 2006, held in Wuhan, China in October 2006. The 37 revised full papers and 17 revised short papers presented together with three invited lectures were carefully reviewed and selected from 183 submissions.

Artificial Intelligence-Based Energy Management Systems for Smart Microgrids Baseem Khan 2022-06-07 Modeling and optimization of energy management systems for micro- and mini-grids play an important role in the fields of energy generation dispatch, system operation, protection coordination, power quality issues, and peak demand conflict with grid security. This comprehensive reference text provides an in-depth insight into these topics. This text discusses the use of meta-heuristic and artificial intelligence algorithms for developing energy management systems with energy use prediction for mini- and microgrid systems. It covers important concepts including modeling of microgrid and energy management systems, optimal protection coordination-based microgrid energy management, optimal energy dispatch with energy management systems, and peak demand management with energy management systems. Key Features: Presents a comprehensive discussion of mini- and microgrid concepts Discusses AC and DC microgrid modeling in detail Covers optimization of mini- and microgrid systems using AI and meta-heuristic techniques Provides MATLAB®-based simulations on a mini- and microgrid Comprehensively discussing concepts of microgrids with the help of software-based simulations, this text will be useful as a reference text for graduate students and professionals in the fields of electrical engineering, electronics and communication engineering, renewable energy, and clean technology.

Hochleistungs-Transaktionssysteme Erhard Rahm 2013-03-08 Transaktionssysteme sind in der kommerziellen Datenverarbeitung weit verbreitet. Gerade wegen ihrer ökonomischen Bedeutung spielen zunehmend Leistungsanforderungen eine Rolle, die nur von sogenannten Hochleistungs-Transaktionssystemen erfüllt werden können. Das Buch zeigt, welche neueren Systementwicklungen bei Hochleistungs-Transaktionssystemen zu beachten sind. Die Darstellung konzentriert sich auf die Datenbankaspekte, insbesondere auch die von Mehrrechner-Systemen. Stets im Auge behalten wird, daß die grundlegenden Konzepte und Methoden dem Leser verständlich vermittelt werden. Das Buch richtet sich an Studenten, DB-Praktiker und Informatiker an Hochschulen und in der Industrie, die an dem State-of-the-Art und neueren Entwicklungen von Transaktions- und Datenbanksystemen interessiert sind.

Spacecraft Power Technologies Flood D J 2000-01-31 Spacecraft Power Technologies is the first comprehensive text devoted to the technologies critical to the development of spacecraft electrical power systems. The science and engineering of solar, chemical, and nuclear systems are fully examined together with the constraints imposed by the space and thermal environments in which the systems must operate. Details of present technology and the history that led to the current state-of-the-art are presented at a level appropriate for the student as a textbook or the practicing engineer as a reference.

Intelligent Systems Design and Applications Ajith Abraham 2022-03-26 This book highlights recent research on intelligent systems and nature-inspired computing. It presents 132 selected papers from the 21st International Conference on Intelligent Systems Design and Applications (ISDA 2021), which was held online. The ISDA is a premier conference in the field of computational intelligence, and the latest installment brought together researchers, engineers and practitioners whose work involves intelligent systems and their applications in industry. Including contributions by authors from 34 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

Engineering Analytics Luis Rabelo 2021-09-27 Engineering analytics is becoming a necessary skill for every engineer. Areas such as Operations Research, Simulation, and Machine Learning can be totally transformed through massive volumes of data. This book is intended to be an introduction to Engineering Analytics that can be used to improve performance tracking, customer segmentation for resource optimization, patterns and classification strategies, and logistics control towers. Basic methods in the areas of visual, descriptive, predictive, and prescriptive analytics and Big Data are introduced. Industrial case studies and example problem demonstrations are used throughout the book to reinforce the concepts and applications. The book goes on to cover visual analytics and its relationships, simulation from the respective dimensions and Machine Learning and Artificial Intelligence from different paradigms viewpoints. The book is intended for professionals wanting to work on analytical problems, for Engineering students, Researchers, Chief-Technology Officers, and Directors that work within the areas and fields of Industrial Engineering, Computer Science, Statistics, Electrical Engineering Operations Research, and Big Data.

Handbook of Research on Machine Learning Innovations and Trends Hassanien, Aboul Ella 2017-04-03 Continuous improvements in technological applications have allowed more opportunities to develop automated systems. This not only leads to higher success in smart data analysis, but it increases the overall probability of technological progression. The Handbook of Research on Machine Learning Innovations and Trends is a key resource on the latest advances and research regarding the vast range of advanced systems and applications involved in machine intelligence. Highlighting multidisciplinary studies on decision theory, intelligent search, and multi-agent systems, this publication is an

ideal reference source for professionals and researchers working in the field of machine learning and its applications.

Scientific and Technical Aerospace Reports 1979

Sustainable Practices: Concepts, Methodologies, Tools, and Applications Management Association, Information Resources 2013-12-31 "This reference explores some of the most recent developments in sustainability, delving into topics beyond environmental science to cover issues of sustainable economic, political, and social development"--Provided by publisher.

Deep Learning for Medical Decision Support Systems Utku Kose 2020-06-17 This book explores various applications of deep learning-oriented diagnosis leading to decision support, while also outlining the future face of medical decision support systems. Artificial intelligence has now become a ubiquitous aspect of modern life, and especially machine learning enjoysgreat popularity, since it offers techniques that are capable of learning from samples to solve newly encountered cases. Today, a recent form of machine learning, deep learning, is being widely used with large, complex quantities of data, because today's problems require detailed analyses of more data. This is critical, especially in fields such as medicine. Accordingly, the objective of this book is to provide the essentials of and highlight recent applications of deep learning architectures for medical decision support systems. The target audience includes scientists, experts, MSc and PhD students, postdocs, and any readers interested in the subjectsdiscussed. The book canbe used as a reference work to support courses on artificial intelligence, machine/deep learning, medical and biomedicaleducation.

Advances in System Dynamics and Control Azar, Ahmad Taher 2018-02-09 Complex systems are pervasive in many areas of science. With the increasing requirement for high levels of system performance, complex systems has become an important area of research due to its role in many industries. Advances in System Dynamics and Control provides emerging research on the applications in the field of control and analysis for complex systems, with a special emphasis on how to solve various control design and observer design problems, nonlinear systems, interconnected systems, and singular systems. Featuring coverage on a broad range of topics, such as adaptive control, artificial neural network, and synchronization, this book is an important resource for engineers, professionals, and researchers interested in applying new computational and mathematical tools for solving the complicated problems of mathematical modeling, simulation, and control.

Research in Management B. L. Maheshwari 1990

Sociotechnical Enterprise Information Systems Design and Integration Maria Manuela Cruz-Cunha 2013-03-31 "This book covers multiple systems and developments in design for businesses and enterprises of all sizes, highlighting the advancing technology and research in this area and proposing strategic approaches to manage risks and detect errors"--Provided by publisher.

Handbook of Real-Time and Embedded Systems Insup Lee 2007-07-23 Real-time and embedded systems are essential to our lives, from controlling car engines and regulating traffic lights to monitoring plane takeoffs and landings to providing up-to-the-minute stock quotes. Bringing together researchers from both academia and industry, the Handbook of Real-Time and Embedded Systems provides comprehensive covera

Exploiting Parallelism in a Shared Disk Database System Vikram Vij 1995

Mehrrechner-Datenbanksysteme Erhard Rahm 1994

Solar Energy Update 1981

Aeronautical Engineering 1979 A selection of annotated references to unclassified reports and journal articles that were introduced into the NASA scientific and technical information system and announced in Scientific and technical aerospace reports (STAR) and International aerospace abstracts (IAA).

Power System Switchgear and Protection Veerappan N. & Krishnamurthy S.R. 2009 |Introduction|Operating Principles And Relays Construction|Apparatus Protection|Theory Of Arc Interruption|Fuses|Circuit Breakers|Protection Against Over Voltage|References

Business India 2004