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Symbolic Analysis of Analog Circuits: Techniques and Applications - Lawrence P. Huelsman 2012-12-06

This book brings together important contributions and state-of-the-art research results in the rapidly advancing area of symbolic analysis of analog circuits. It is also of interest to those working in analog CAD. The book is an excellent reference, providing insights into some of the most important issues in the symbolic analysis of analog circuits.

New Scientist - 1963-04-11

New Scientist magazine was launched in 1956 "for all those men and women who are interested in scientific discovery, and in its industrial, commercial and social consequences". The brand's mission is no different today - for its consumers, New Scientist reports, explores and interprets the results of human endeavour set in the context of society and culture.

Transactions of the American Institute of Electrical Engineers - American Institute of Electrical Engineers 1917

"Index of current electrical literature," Dec. 1887- appended to v. 5-

Proceedings of the American Institute of Electrical Engineers - American Institute of Electrical Engineers 1916

List of members of the Institute in v. 24-26.

The Proceedings of the 9th Frontier Academic Forum of Electrical Engineering - Weiming Ma 2021-04-21

This book includes the original, peer-reviewed research papers from the 9th Frontier Academic Forum of Electrical Engineering (FAFEE 2020), held in Xi'an, China, in August 2020. It gathers the latest research, innovations, and applications in the fields of Electrical Engineering. The topics it covers including electrical materials and equipment, electrical energy storage and device, power electronics and drives, new energy electric power system equipment, IntelliSense and intelligent equipment, biological electromagnetism and its applications, and insulation and discharge computation for power equipment. Given its scope, the book benefits all researchers, engineers, and graduate students who want to learn about cutting-edge advances in Electrical Engineering.

Computational Methodologies for Electrical and Electronics Engineers - Singh, Rajiv 2021-03-18

Artificial intelligence has been applied to many areas of science and technology, including the power and energy sector. Renewable energy in particular has experienced the tremendous positive impact of these developments. With the recent evolution of smart energy technologies, engineers and scientists working in this sector need an exhaustive source of current knowledge to effectively cater to the energy needs of citizens of developing countries. Computational Methodologies for Electrical and Electronics Engineers is a collection of innovative research that provides a complete insight and overview of the application of intelligent computational techniques in power and energy. Featuring research on a wide range of topics such as artificial neural networks, smart grids, and soft computing, this book is ideally designed for programmers, engineers, technicians, ecologists, entrepreneurs, researchers, academicians, and students.

A Century of Electrical Engineering and Computer Science at MIT, 1882-1982 - Karl L. Wildes 1985

Electrical engineering is a protean profession. Today the field embraces many disciplines that seem far removed from its roots in the telegraph, telephone, electric lamps, motors, and generators. To a remarkable extent, this chronicle of change and growth at a single institution is a capsule history of the discipline and profession of electrical engineering as it developed worldwide. Even when MIT was not leading the way, the department was usually quick to adapt to changing needs, goals, curricula, and research programs. What has remained constant throughout is the dynamic interaction of teaching and research, flexibility of administration, the interconnections with industrial progress and national priorities. The book's text and many photographs introduce readers to the renowned teachers and researchers who are still well known in engineering circles, among them: Vannevar Bush, Harold

Hazen, Edward Bowles, Gordon Brown, Harold Edgerton, Ernst Guillemin, Arthur von Hippel, and Jay Forrester. The book covers the department's major areas of activity - electrical power systems, servomechanisms, circuit theory, communication theory, radar and microwaves (developed first at the famed Radiation Laboratory during World War II), insulation and dielectrics, electronics, acoustics, and computation. This rich history of accomplishments shows moreover that years before "Computer Science" was added to the department's name such pioneering results in computation and control as Vannevar Bush's Differential Analyzer, early cybernetic devices and numerically controlled servomechanisms, the Whirlwind computer, and the evolution of time-sharing computation had already been achieved. Karl Wildes has been associated with the Department of Electrical Engineering and Computer Science since the 1920s, and is now Professor Emeritus. Nilo Lindgren, an electrical engineering graduate of MIT and professional scientific and technical journalist for many years, is at present affiliated with the Electric Power Research Institute in Palo Alto, California.

Model-Based Engineering of Embedded Systems - Klaus Pohl 2012-11-08

Embedded systems have long become essential in application areas in which human control is impossible or infeasible. The development of modern embedded systems is becoming increasingly difficult and challenging because of their overall system complexity, their tighter and cross-functional integration, the increasing requirements concerning safety and real-time behavior, and the need to reduce development and operation costs. This book provides a comprehensive overview of the Software Platform Embedded Systems (SPES) modeling framework and demonstrates its applicability in embedded system development in various industry domains such as automation, automotive, avionics, energy, and healthcare. In SPES 2020, twenty-one partners from academia and industry have joined forces in order to develop and evaluate in different industrial domains a modeling framework that reflects the current state of the art in embedded systems engineering. The content of this book is structured in four parts. Part I "Starting Point" discusses the status quo of embedded systems development and model-based engineering, and summarizes the key requirements faced when developing embedded systems in different application domains. Part II "The SPES Modeling Framework" describes the SPES modeling framework. Part III "Application and Evaluation of the SPES Modeling Framework" reports on the validation steps taken to ensure that the framework met the requirements discussed in Part I. Finally, Part IV "Impact of the SPES Modeling Framework" summarizes the results achieved and provides an outlook on future work. The book is mainly aimed at professionals and practitioners who deal with the development of embedded systems on a daily basis. Researchers in academia and industry may use it as a compendium for the requirements and state-of-the-art solution concepts for embedded systems development.

Guide to Programs - National Science Foundation (U.S.) 1991

National Science Council Review - 1998

Electrical Engineering and Control - Min Zhu 2011-06-21

This volume includes extended and revised versions of a set of selected papers from the International Conference on Electric and Electronics (EEIC 2011), held on June 20-22, 2011, which is jointly organized by Nanchang University, Springer, and IEEE IAS Nanchang Chapter. The objective of EEIC 2011 Volume 2 is to provide a major interdisciplinary forum for the presentation of new approaches from Electrical engineering and controls, to foster integration of the latest developments in scientific research. 133 related topic papers were selected into this volume. All the papers were reviewed by 2 program committee members and selected by the volume editor Prof. Min Zhu. We hope every participant can have a good opportunity to exchange their research ideas

and results and to discuss the state of the art in the areas of the Electrical engineering and controls.

Sustainable Technology and Advanced Computing in Electrical Engineering - Vasundhara Mahajan 2022-12-04

The book includes peer-reviewed papers of the International Conference on Sustainable Technology and Advanced Computing in Electrical Engineering (ICSTACE 2021). The main focus of the book is electrical engineering. The conference aims to provide a global platform to the researchers for sharing and showcasing their discoveries/findings/innovations. The book focuses on the areas related to sustainable development and includes research works from academicians and industry experts. The book discusses new challenges and provides solutions at the interface of technology, information, complex systems, and future research directions.

Energy Research and Development and Space Technology - United States. Congress. House. Committee on Science and Astronautics. Subcommittee on Space Science and Applications 1973

Handbook of Research on New Solutions and Technologies in Electrical Distribution Networks - Khan, Baseem 2019-12-06

As the electrical industry continues to develop, one sector that still faces a range of concerns is the electrical distribution system. Excessive industrialization and inadequate billing are just a few issues that have plagued this electrical sector as it advances into the smart grid environment. Research is necessary to explore the possible solutions in fixing these problems and developing the distribution sector into an active and smart system. The Handbook of Research on New Solutions and Technologies in Electrical Distribution Networks is a collection of innovative research on the methods and applications of solving major issues within the electrical distribution system. Some issues covered within the publication include distribution losses, improper monitoring of system, renewable energy integration with micro-grid and distributed energy sources, and smart home energy management system modelling. This book is ideally designed for power engineers, electrical engineers, energy professionals, developers, technologists, policymakers, researchers, academicians, industry professionals, and students seeking current research on improving this key sector of the electrical industry.

Graduate Announcement - University of Michigan--Dearborn 1990

Handbook of Research on 5G Networks and Advancements in Computing, Electronics, and Electrical Engineering - Nwajana, Augustine O. 2021-06-25

The advent of the emerging fifth generation (5G) networks has changed the paradigm of how computing, electronics, and electrical (CEE) systems are interconnected. CEE devices and systems, with the help of the 5G technology, can now be seamlessly linked in a way that is rapidly turning the globe into a digital world. Smart cities and internet of things have come to stay but not without some challenges, which must be discussed. The Handbook of Research on 5G Networks and Advancements in Computing, Electronics, and Electrical Engineering focuses on current technological innovations as the world rapidly heads towards becoming a global smart city. It covers important topics such as power systems, electrical engineering, mobile communications, network, security, and more. This book examines vast types of technologies and their roles in society with a focus on how each works, the impacts it has, and the future for developing a global smart city. This book is ideal for both industrial and academic researchers, scientists, engineers, educators, practitioners, developers, policymakers, scholars, and students interested in 5G technology and the future of engineering, computing, and technology in human society.

Novel Advancements in Electrical Power Planning and Performance - Shandilya, Smita 2019-08-02

As the demand for efficient energy sources continues to grow, electrical systems are becoming more essential to meet these increased needs. Electrical generation and transmission plans must remain cost-effective, reliable, and flexible for further future expansion. As these systems are being utilized more frequently, it becomes imperative to find ways of optimizing their overall function. Novel Advancements in Electrical Power Planning and Performance is an essential reference source that provides vital research on the specific challenges, issues, strategies, and solutions that are associated with electrical transmission and distribution systems and features emergent methods and research in the systemic and strategic planning of energy usage. Featuring research on topics such as probabilistic modeling, voltage stability, and radial distribution, this book is ideally designed for electrical engineers, practitioners, power

plant managers, investors, industry professionals, researchers, academicians, and students seeking coverage on the methods and profitability of electrical expansion planning.

Spectrum Sharing Between Radars and Communication Systems - Awais Khawar 2017-06-12

This book presents spectrum sharing efforts between cellular systems and radars. The book addresses coexistence algorithms for radar and communication systems. Topics include radar and cellular system models; spectrum sharing with small radar systems; spectrum sharing with large radar systems; radar spectrum sharing with coordinated multipoint systems (CoMP); and spectrum sharing with overlapped MIMO radars. The primary audience is the radar and wireless communication community, specifically people in industry, academia, and research whose focus is on spectrum sharing. The topics are of interest for both communication and signal processing technical groups. In addition, students can use MATLAB code to enhance their learning experience.

Electrical, Computer, and Systems Engineering - National Science Foundation (U.S.). Division of Electrical, Computer, and Systems Engineering 1980

Comprehensive Dictionary of Electrical Engineering - Phillip A. Laplante 1999-01-01

Complete coverage of all fields of electrical engineering. The book provides workable definitions for practicing engineers, while serving as a reference and research tool for students, and offering practical information for scientists and engineers in other disciplines. Areas examined include applied electrical, microwave, control, power, and digital systems engineering, plus device electronics.

Die Fakultät für Elektrotechnik und Informationstechnik / The Faculty of Electrical Engineering and Information Technology - Karl Unterrainer 2016-01-20

An autonomous faculty of the TU Wien for only forty years, Electrical Engineering and Information Technology are nevertheless among the most important foundations of technical development since the 19th century. Areas of research are numerous and broad - starting with the "classics" like Energy Technologies and Telecommunications, research turned to the fields of System and Automation Technologies, Micro- and Nanoelectronics, and Photonics, all highly complex disciplines that have established themselves as essential to modern society.

Fundamental Research in Electrical Engineering - Shahram Montaser Kouhsari 2018-07-25

This volume presents the selected papers of the First International Conference on Fundamental Research in Electrical Engineering, held at Khwarazmi University, Tehran, Iran in July, 2017. The selected papers cover the whole spectrum of the main four fields of Electrical Engineering (Electronic, Telecommunications, Control, and Power Engineering).

Studies in Pattern Recognition - Herbert Freeman 1997-02-03

More than ten years have passed since the untimely death of King-Sun Fu, one of the great pioneers in the field of pattern recognition. It was he, more than any other single individual, who nurtured the field during its formative years, and set the tone and tempo for others to follow. This book is dedicated to his memory. This book contains 11 chapters by authors who knew King-Sun Fu and in varying degrees interacted with him. The articles span the field of pattern recognition in its current state, and cover such diverse topics as neural nets, covariance propagation, genetic selection, shape description, characteristic views for 3D modeling, face recognition, speech recognition, and machine translation. In tone they vary from the highly theoretical to the applied. Their presentation here is a testimonial, by his former colleagues and friends, to the pioneer who did so much to bring pattern recognition to its position as a recognized discipline world-wide.

University of Michigan Official Publication - 1967

Handbook of Research on Advanced Applications of Graph Theory in Modern Society - Pal, Madhumangal 2019-08-30

In the world of mathematics and computer science, technological advancements are constantly being researched and applied to ongoing issues. Setbacks in social networking, engineering, and automation are themes that affect everyday life, and researchers have been looking for new techniques in which to solve these challenges. Graph theory is a widely studied topic that is now being applied to real-life problems. The Handbook of Research on Advanced Applications of Graph Theory in Modern Society is an essential reference source that discusses recent

developments on graph theory, as well as its representation in social networks, artificial neural networks, and many complex networks. The book aims to study results that are useful in the fields of robotics and machine learning and will examine different engineering issues that are closely related to fuzzy graph theory. Featuring research on topics such as artificial neural systems and robotics, this book is ideally designed for mathematicians, research scholars, practitioners, professionals, engineers, and students seeking an innovative overview of graphic theory.

The Proceedings of the 9th Frontier Academic Forum of Electrical Engineering - Weijiang Chen 2021-04-20

This book includes the original, peer-reviewed research papers from the 9th Frontier Academic Forum of Electrical Engineering (FAFEE 2020), held in Xi'an, China, in August 2020. It gathers the latest research, innovations, and applications in the fields of Electrical Engineering. The topics it covers including electrical materials and equipment, electrical energy storage and device, power electronics and drives, new energy electric power system equipment, IntelliSense and intelligent equipment, biological electromagnetism and its applications, and insulation and discharge computation for power equipment. Given its scope, the book benefits all researchers, engineers, and graduate students who want to learn about cutting-edge advances in Electrical Engineering.

Proceedings of the Institution of Electrical Engineers - Institution of Electrical Engineers 1913

Vols. for 1970-79 include an annual special issue called IEE reviews.

Electrical Engineering - 1912

Computer Tools for Electrical Engineers; Matlab & Spice - James C. Squire, P.E., Ph.D. 2019-05-15

Computer Tools for Electrical Engineers: MATLAB & SPICE is designed to meet the specific needs of electrical and computer engineering undergraduates with little or no prior experience with programming and matrix algebra. Computer Tools focuses on the use of MATLAB within an electrical and computer engineering curriculum, and it concludes with circuit simulation using the freely-available application LTSpice by Analog Devices. The text emphasizes the development of practical skills that students will use in future EE and ECE coursework, with programming chapters, practical examples, and problem sets that address common electrical engineering concerns. The design of Computer Tools also draws upon the authors' extensive involvement in pedagogical research, writing, and active learning strategies.

Principles and Methods of Explainable Artificial Intelligence in Healthcare - Albuquerque, Victor Hugo C. de 2022-05-20

Explainable artificial intelligence is proficient in operating and analyzing the unconstrained environment in fields like robotic medicine, robotic treatment, and robotic surgery, which rely on computational vision for analyzing complex situations. Explainable artificial intelligence is a well-structured customizable technology that makes it possible to generate promising unbiased outcomes. The model's adaptability facilitates the management of heterogeneous healthcare data and the visualization of biological structures through virtual reality. Explainable artificial intelligence has newfound applications in the healthcare industry, such as clinical trial matching, continuous healthcare monitoring, probabilistic evolutions, and evidence-based mechanisms. Principles and Methods of Explainable Artificial Intelligence in Healthcare discusses explainable artificial intelligence and its applications in healthcare, providing a broad overview of state-of-the-art approaches for accurate analysis and diagnosis. The book also encompasses computational vision processing techniques that handle complex data like physiological information, electronic healthcare records, and medical imaging data that assist in earlier prediction. Covering topics such as neural networks and disease detection, this reference work is ideal for industry professionals, practitioners, academicians, researchers, scholars, instructors, and students.

Applications of Artificial Intelligence in Electrical Engineering - Khalid, Saifullah 2020-03-27

Artificial intelligence is increasingly finding its way into industrial and manufacturing contexts. The prevalence of AI in industry from stock market trading to manufacturing makes it easy to forget how complex artificial intelligence has become. Engineering provides various current and prospective applications of these new and complex artificial intelligence technologies. Applications of Artificial Intelligence in Electrical Engineering is a critical research book that examines the advancing developments in artificial intelligence with a focus on theory and research and their implications. Highlighting a wide range of topics

such as evolutionary computing, image processing, and swarm intelligence, this book is essential for engineers, manufacturers, technology developers, IT specialists, managers, academicians, researchers, computer scientists, and students.

Scientific Computing in Electrical Engineering - Angelo Marcello Anile 2007-01-10

This book is a collection of papers presented at the last Scientific Computing in Electrical Engineering (SCEE) Conference, held in Sicily, in 2004. The series of SCEE conferences aims at addressing mathematical problems which have a relevancy to industry. The areas covered at SCEE-2004 were: Electromagnetism, Circuit Simulation, Coupled Problems and General mathematical and computational methods.

Power Electronics and Motor Control - W. Shepherd 1995

This clear and concise advanced textbook is a comprehensive introduction to power electronics.

Computer, Communication and Electrical Technology - Debatosh Guha 2017-03-16

The First International Conference on Advancement of Computer, Communication and Electrical Technology focuses on key technologies and recent progress in computer vision, information technology applications, VLSI, signal processing, power electronics & drives, and application of sensors & transducers, etc. Topics in this conference include: Computer Science This conference encompassed relevant topics in computer science such as computer vision & intelligent system, networking theory, and application of information technology. Communication Engineering To enhance the theory & technology of communication engineering, ACCET 2016 highlighted the state-of-the-art research work in the field of VLSI, optical communication, and signal processing of various data formatting. Research work in the field of microwave engineering, cognitive radio and networks are also included. Electrical Technology The state-of-the-art research topic in the field of electrical & instrumentation engineering is included in this conference such as power system stability & protection, non-conventional energy resources, electrical drives, and biomedical engineering. Research work in the area of optimization and application in control, measurement & instrumentation are included as well.

Studies in Pattern Recognition - King Sun Fu 1996

More than ten years have passed since the untimely death of King-Sun Fu, one of the great pioneers in the field of pattern recognition. It was he, more than any other single individual, who nurtured the field during its formative years, and set the tone and tempo for others to follow. This book is dedicated to his memory. This book contains 11 chapters by authors who knew King-Sun Fu and in varying degrees interacted with him. The articles span the field of pattern recognition in its current state, and cover such diverse topics as neural nets, covariance propagation, genetic selection, shape description, characteristic views for 3D modeling, face recognition, speech recognition, and machine translation. In tone they vary from the highly theoretical to the applied. Their presentation here is a testimonial, by his former colleagues and friends, to the pioneer who did so much to bring pattern recognition to its position as a recognized discipline world-wide.

Handbook of Research on Power and Energy System Optimization - Kumar, Pawan 2018-03-16

In recent years, the development of advanced structures for providing sustainable energy has been a topic at the forefront of public and political conversation. Many are looking for advancements on pre-existing sources and new and viable energy options to maintain a modern lifestyle. The Handbook of Research on Power and Energy System Optimization is a critical scholarly resource that examines the usage of energy in relation to the perceived standard of living within a country and explores the importance of energy structure augmentation. Featuring coverage on a wide range of topics including energy management, micro-grid, and distribution generation, this publication is targeted towards researchers, academicians, and students seeking relevant research on the augmentation of current energy structures to support existing standards of living.

Journal of the Institution of Electrical Engineers - Institution of Electrical Engineers 1913

Logic Synthesis and Verification - Soha Hassoun 2012-12-06

Research and development of logic synthesis and verification have matured considerably over the past two decades. Many commercial products are available, and they have been critical in harnessing advances in fabrication technology to produce today's plethora of

electronic components. While this maturity is assuring, the advances in fabrication continue to seemingly present unwieldy challenges. Logic Synthesis and Verification provides a state-of-the-art view of logic synthesis and verification. It consists of fifteen chapters, each focusing on a distinct aspect. Each chapter presents key developments, outlines future challenges, and lists essential references. Two unique features of this book are technical strength and comprehensiveness. The book chapters are written by twenty-eight recognized leaders in the field and reviewed by equally qualified experts. The topics collectively span the field. Logic Synthesis and Verification fills a current gap in the existing CAD literature. Each chapter contains essential information to study a topic at a great depth, and to understand further developments in the field. The book is intended for seniors, graduate students, researchers, and developers of related Computer-Aided Design (CAD) tools. From the foreword: "The commercial success of logic synthesis and verification is due in large part to the ideas of many of the authors of this book. Their innovative work contributed to design automation tools that permanently changed the course of electronic design." by Aart J. de Geus, Chairman and CEO, Synopsys, Inc.

Programming for Electrical Engineers - James C. Squire 2020-07-08
Programming for Electrical Engineers: MATLAB and Spice introduces beginning engineering students to programming in Matlab and Spice through engaged, problem-based learning and dedicated electrical and computer engineering content. The book draws its problems and examples specifically from electrical and computer engineering, covering such topics as circuit analysis, signal processing, and filter design. It teaches relevant computational techniques in the context of solving common problems in electrical and computer engineering, including

mesh and nodal analysis, Fourier transforms, and phasor analysis. Programming for Electrical Engineers: MATLAB and Spice is unique among MATLAB textbooks for its dual focus on introductory-level learning and discipline-specific content in electrical and computer engineering. No other textbook on the market currently targets this audience with the same attention to discipline-specific content and engaged learning practices. Although it is primarily an introduction to programming in MATLAB, the book also has a chapter on circuit simulation using Spice, and it includes materials required by ABET Accreditation reviews, such as information on ethics, professional development, and lifelong learning. Discipline-specific: Introduces Electrical and Computer Engineering-specific topics, such as phasor analysis and complex exponentials, that are not covered in generic engineering Matlab texts Accessible: Pedagogically appropriate for freshmen and sophomores with little or no prior programming experience Scaffolded content: Addresses both script and functions but emphasizes the use of functions since scripts with non-scoped variables are less-commonly encountered after introductory courses Problem-centric: Introduces MATLAB commands as needed to solve progressively more complex EE/ECE-specific problems, and includes over 100 embedded, in-chapter questions to check comprehension in stages and support active learning exercises in the classroom Enrichment callouts: "Pro Tip" callouts cover common ABET topics, such as ethics and professional development, and "Digging Deeper" callouts provide optional, more detailed material for interested students

Energy Storage Systems - Birol Kilkis 2012-12-06
Proceedings of the NATO Advanced Study Institute, Çesme, Izmir, Turkey, 27 June-8 July, 1988