

Gmu Electrical Engineering

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[Advanced Software Applications in Japan](#) Edward Feigenbaum 1995-01-01 [Advanced Software Applications in Japan](#)
[Cognitive Radio and its Application for Next Generation Cellular and Wireless Networks](#) Hrishikesh Venkataraman 2012-04-28 This book provides a broad introduction to Cognitive Radio, which attempts to mimic human cognition and reasoning applied to Software Defined Radio and reconfigurable radio over wireless networks. It provides readers with significant technical and practical insights into different aspects of Cognitive Radio, starting from a basic background, the principle behind the technology, the inter-related technologies and application to cellular and vehicular networks, the technical challenges, implementation and future trends. The discussion balances theoretical concepts and practical implementation. Wherever feasible, the different concepts explained are linked to application of the corresponding scheme in a particular wireless standard. This book has two sections: the first section begins with an introduction to cognitive radio and discusses in detail various, inter-dependent technologies such as network coding, software-based radio, dirty RF, etc. and their relation to cognitive radio. The second section deals with two key applications of cognitive radio – next generation cellular networks and vehicular networks. The focus is on the impact and the benefit of having cognitive radio-based mechanisms for radio resource allocation, multihop data transmission, co-operative communication, cross-layer solutions and FPGA-level framework design, as well as the effect of relays as cognitive gateways and real-time, seamless multimedia transmission using cognitive radio.

[Electrical and Computer Engineering Department, George Mason University](#) Introduces the Electrical and Computer Engineering Department at George Mason University (GMU), including an overview of the program; details on Bachelors, Masters, and Doctorate degree programs; application materials; course offerings; faculty, staff, and students; course materials and educational resources; and instructional computer labs and research centers. Provides links to departmental announcements, directions to the campus, and general GMU information.

[Mobile Communications Handbook](#) Jerry D. Gibson 2017-12-19 With 26 entirely new and 5 extensively revised chapters out of the total of 39, the Mobile Communications Handbook, Third Edition presents an in-depth and up-to-date overview of the full range of wireless and mobile technologies that we rely on every day. This includes, but is not limited to, everything from digital cellular mobile radio and evolving personal communication systems to wireless data and wireless networks. Illustrating the extraordinary evolution of wireless communications and networks in the last 15 years, this book is divided into five sections: Basic Principles provides the essential underpinnings for the wide-ranging mobile communication technologies currently in use throughout the world. Wireless Standards contains technical details of the standards we use every day, as well as insights into their development. Source Compression and Quality Assessment covers the compression techniques used to represent voice and video for transmission over mobile communications systems as well as how the delivered voice and video quality are assessed. Wireless Networks examines the wide range of current and developing wireless networks and wireless methodologies. Emerging Applications explores newly developed areas of vehicular communications and 60 GHz wireless communications. Written by experts from industry and academia, this book provides a succinct overview of each topic, quickly bringing the reader up to date, but with sufficient detail and references to enable deeper investigations. Providing much more than a "just the facts" presentation, contributors use their experience in the field to provide insights into how each topic has emerged and to point toward forthcoming developments in mobile communications.

[Peterson's Graduate Programs in Ocean Engineering, Paper & Textile Engineering, and Telecommunications](#) 2011 Peterson's 2011-05-01 Peterson's Graduate Programs in Ocean Engineering, Paper & Textile Engineering, and Telecommunications contains a wealth of information on colleges and universities that offer graduate degrees in these fields. The profiled institutions include those in the United States, Canada, and abroad that are accredited by U.S. accrediting bodies. Up-to-date data, collected through Peterson's Annual Survey of Graduate and Professional Institutions, provides valuable information on degree offerings, professional accreditation, jointly offered degrees, part-time and evening/weekend

programs, postbaccalaureate distance degrees, faculty, students, degree requirements, entrance requirements, expenses, financial support, faculty research, and unit head and application contact information. Readers will find helpful links to in-depth descriptions that offer additional detailed information about a specific program or department, faculty members and their research, and much more. In addition, there are valuable articles on financial assistance, the graduate admissions process, advice for international and minority students, and facts about accreditation, with a current list of accrediting agencies.

Cognitive Radio and Interference Management: Technology and Strategy Ku, Meng-Lin 2012-08-31 Broadcast spectrum is scarce, both in terms of our ability to access existing spectrum and as a result of access rules created by governments. An emerging paradigm called cognitive radio, however, has the potential to allow different systems to dynamically access and opportunistically exploit the same frequency band in an efficient way, thereby allowing broadcasters to use spectrum more efficiently. Cognitive Radio and Interference Management: Technology and Strategy brings together state-of-the-art research results on cognitive radio and interference management from both theoretical and practical perspectives. It serves as a bridge between people who are working to develop theoretical and practical research in cognitive radio and interference management, and therefore facilitate the future development of cognitive radio and its applications.

Security and Trust Management Rafael Accorsi 2013-09-04 This book constitutes the refereed proceedings of the 9th International Workshop on Security and Trust Management, STM 2013, held in Egham, UK, in September 2013 - in conjunction with the 18th European Symposium Research in Computer Security (ESORICS 2013). The 15 revised full papers including two invited talks were carefully reviewed and selected from 47 submissions. The papers are organized into topical sections on policy enforcement and monitoring; access control; trust, reputation, and privacy; distributed systems and physical security; authentication and security policies.

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.

Career Opportunities in the Internet, Video Games, and Multimedia T. Allan Taylor 2009-01-01 Provides updated key information, including salary ranges, employment trends, and technical requirements. Career profiles include animator, content specialist, game designer, online editor, web security manager, and more.

The User's Directory of Computer Networks Tracy Laquey 2014-06-28 Your map through the network jungle. Here's how to track down virtually every network available to academics and researchers. This new book, with its detailed compilation of host-level information, provides everything you need to locate resources, send mail to colleagues and friends worldwide, and answer questions about how to access major national and international networks. Extensively cross-referenced information on ARPANET/MILNET, BITNET, CSNET, Esnet, NSFNET, SPAN, THEnet, USENET, and loads of others is all provided. Included are detailed lists of hosts, site contacts, administrative domains, and organizations. Plus, a tutorial chapter with handy reference tables reveals electronic mail 'secrets' that make it easier to take advantage of networking.

Sensor Management in ISR Kenneth J. Hintz 2020-02-29 This innovative resource is the first book that partitions the intelligence, surveillance and reconnaissance (ISR) sensor management process into partitioned functions that can be studied and optimized independently of each other through defined conceptual interfaces. The book explains the difference between situation information and sensor information and how to compute both. The information-based sensor management (IBSM) approach to real-time orchestrated resource management (ORM) of intelligence, surveillance, and reconnaissance (ISR) assets in the physical, cyber, and social domains are detailed. The integrating concept of mission value through use of goal lattice (GL) methodology is explored. Approaches to implementing real-time sensor management (SM) systems by applying advanced information-based approaches that consider contextual situation and optimization of diverse sensor capabilities for information-based objectives are also covered. These methods have applications in physical intelligence, surveillance, and reconnaissance (ISR), as well as in cyber, and social domains. Based on 30 years of research in developing a mission-valued approach to maximizing the transfer of information from real, cyber, and social environments into a mission-valued, probabilistic representation of that environment on which decision makers can formulate actions, this is the only book that addresses real-time management of ISR from a first principles approach (information theory), and how information theory can be applied to the design and development of ISR systems.

The Heart of Football: Why the Small College Game Matters Phil Maas 2020-08-18 Small College Football captures The Heart of Football, the joy, the passion, the heartache ... It is life. Small college football is everyone from anywhere working to become a team. How this mission impacts the players and coaches striving to achieve it is more important today than ever

before. In The Heart of Football-players tell you why they play, coaches tell you why they coach, and everyone involved in the game tells you why they love football so much.

Graduate Programs in Engineering & Applied Sciences 2011 (Grad 5) Peterson's 2011-05-01 Peterson's Graduate Programs in Engineering & Applied Sciences contains a wealth of information on colleges and universities that offer graduate degrees in the fields of Aerospace/Aeronautical Engineering; Agricultural Engineering & Bioengineering; Architectural Engineering, Biomedical Engineering & Biotechnology; Chemical Engineering; Civil & Environmental Engineering; Computer Science & Information Technology; Electrical & Computer Engineering; Energy & Power engineering; Engineering Design; Engineering Physics; Geological, Mineral/Mining, and Petroleum Engineering; Industrial Engineering; Management of Engineering & Technology; Materials Sciences & Engineering; Mechanical Engineering & Mechanics; Ocean Engineering; Paper & Textile Engineering; and Telecommunications. Up-to-date data, collected through Peterson's Annual Survey of Graduate and Professional Institutions, provides valuable information on degree offerings, professional accreditation, jointly offered degrees, part-time and evening/weekend programs, postbaccalaureate distance degrees, faculty, students, degree requirements, entrance requirements, expenses, financial support, faculty research, and unit head and application contact information. As an added bonus, readers will find a helpful "See Close-Up" link to in-depth program descriptions written by some of these institutions. These Close-Ups offer detailed information about the specific program or department, faculty members and their research, and links to the program Web site. In addition, there are valuable articles on financial assistance and support at the graduate level and the graduate admissions process, with special advice for international and minority students. Another article discusses important facts about accreditation and provides a current list of accrediting agencies.

Bayesian Multiple Target Tracking, Second Edition Lawrence D. Stone 2013-12-01 This second edition has undergone substantial revision from the 1999 first edition, recognizing that a lot has changed in the multiple target tracking field. One of the most dramatic changes is in the widespread use of particle filters to implement nonlinear, non-Gaussian Bayesian trackers. This book views multiple target tracking as a Bayesian inference problem. Within this framework it develops the theory of single target tracking, multiple target tracking, and likelihood ratio detection and tracking. In addition to providing a detailed description of a basic particle filter that implements the Bayesian single target recursion, this resource provides numerous examples that involve the use of particle filters. With these examples illustrating the developed concepts, algorithms, and approaches -- the book helps radar engineers develop tracking solutions when observations are non-linear functions of target state, when the target state distributions or measurement error distributions are not Gaussian, in low data rate and low signal to noise ratio situations, and when notions of contact and association are merged or unresolved among more than one target.

Systems Engineering Andrew P. Sage 1992-08-07 Addresses some fundamental considerations associated with the engineering of large scale systems. The first part deals with systems methodology, design and management including a detailed examination of operational and task level system quality assurance through configuration management, audits and reviews, standards and systems integration. The second part discusses a variety of systems design and management approaches, particularly those concerned with system effectiveness evaluation and the human role in systems.

Mobile Robots Gerald Cook 2020-01-09 Presents the normal kinematic and dynamic equations for robots, including mobile robots, with coordinate transformations and various control strategies This fully updated edition examines the use of mobile robots for sensing objects of interest, and focus primarily on control, navigation, and remote sensing. It also includes an entirely new section on modeling and control of autonomous underwater vehicles (AUVs), which exhibits unique complex three-dimensional dynamics. Mobile Robots: Navigation, Control and Sensing, Surface Robots and AUVs, Second Edition starts with a chapter on kinematic models for mobile robots. It then offers a detailed chapter on robot control, examining several different configurations of mobile robots. Following sections look at robot attitude and navigation. The application of Kalman Filtering is covered. Readers are also provided with a section on remote sensing and sensors. Other chapters discuss: target tracking, including multiple targets with multiple sensors; obstacle mapping and its application to robot navigation; operating a robotic manipulator; and remote sensing via UAVs. The last two sections deal with the dynamics modeling of AUVs and control of AUVs. In addition, this text: Includes two new chapters dealing with control of underwater vehicles Covers control schemes including linearization and use of linear control design methods, Lyapunov stability theory, and more Addresses the problem of ground registration of detected objects of interest given their pixel coordinates in the sensor frame Analyzes geo-registration errors as a function of sensor precision and sensor pointing uncertainty Mobile Robots: Navigation, Control and Sensing, Surface Robots and AUVs is intended for use as a textbook for a graduate course of the same title and can also serve as a reference book for practicing engineers working in related areas.

Women of Goddard 2011

Virtual Reality Lila Bozgeyikli 2022-09-01 Although the emergence of virtual reality (VR) goes back to the 1960s, with the recent availability of low-cost and high-accuracy systems it has become increasingly prevalent in a wide variety of areas; with uses ranging from training and education to rehabilitation and entertainment. Nowadays, there are many companies that have their own VR systems with various types of headsets and controllers. This has shaped how VR is being used today and

how we interact with the latest generation VR systems. With the rapidly evolving dynamics gained through technological advancements, VR is projected to grow and transform the way humans do everyday tasks both in the workplace and in personal lives. In addition to the VR headsets, there are now augmented reality (AR) headsets that allow the user to see their real-world surroundings while also viewing computer generated imagery. This leads to an enhanced user experience. This book aims to provide a comprehensive update of the latest scientific research, mainly in VR and partly in AR, from the last five years. The content is themed around the application areas of training, education, robotics, health and well-being, and user experience.

Data Mining for Scientific and Engineering Applications R.L. Grossman 2013-12-01 Advances in technology are making massive data sets common in many scientific disciplines, such as astronomy, medical imaging, bio-informatics, combinatorial chemistry, remote sensing, and physics. To find useful information in these data sets, scientists and engineers are turning to data mining techniques. This book is a collection of papers based on the first two in a series of workshops on mining scientific datasets. It illustrates the diversity of problems and application areas that can benefit from data mining, as well as the issues and challenges that differentiate scientific data mining from its commercial counterpart. While the focus of the book is on mining scientific data, the work is of broader interest as many of the techniques can be applied equally well to data arising in business and web applications. Audience: This work would be an excellent text for students and researchers who are familiar with the basic principles of data mining and want to learn more about the application of data mining to their problem in science or engineering.

An Invitation to 3-D Vision Yi Ma 2012-11-06 This book introduces the geometry of 3-D vision, that is, the reconstruction of 3-D models of objects from a collection of 2-D images. It details the classic theory of two view geometry and shows that a more proper tool for studying the geometry of multiple views is the so-called rank consideration of the multiple view matrix. It also develops practical reconstruction algorithms and discusses possible extensions of the theory.

H-1B Visas United States. Congress. House. Committee on the Judiciary. Subcommittee on Immigration Policy and Enforcement 2011

Information Systems Security Atul Prakash 2014-12-03 This book constitutes the refereed proceedings of the 10th International Conference on Information Systems Security, ICISS 2014, held in Hyderabad, India, in December 2014. The 20 revised full papers and 5 short papers presented together with 3 invited papers were carefully reviewed and selected from 129 submissions. The papers address the following topics: security inferences; security policies; security user interfaces; security attacks; malware detection; forensics; and location based security services.

Computer Supported Risk Management Giampiero Beroggi 2012-12-06 Advances in information technology provide opportunities for the development of computer systems that support risk managers in complex tasks. Leading experts report on the potentials and limitations concerning the use of computer systems in risk management. Their reports are based on many years of experience in their fields which include: risk analysis, systems engineering, geographic information systems, decision support systems, human-machine systems, and psychology. The book addresses four major issues in computer supported risk management: Conceptual aspects: the role, design, and use of computers in risk management Planning and policy analysis: transportation, equity analysis, emergency management, group decision making Operational decision making: nuclear power monitoring, emergency response, public safety warning, satellite tracking Commercial applications: GIS from IIASA, InterClair from IAEA, EPA software, cleanup decision support software survey. This book is meant for researchers, who will find the emerging issues in risk management that are motivated by the encounter of new tasks and novel technology; practitioners who will have descriptions and references of the state-of-the-art models and software; and students who will learn the basic concepts needed to develop advanced information and decision support systems in risk management.

ASEE Directory of Engineering Education Leaders 1998

The Human Viewpoint for System Architectures Holly A.H. Handley 2019-02-19 This book describes a methodology to represent socio-technical system concerns in the system architecting process. The resulting set of Human Views augments traditional system viewpoints with human-focused data. The Human Viewpoint methodology classifies the socio-technical system context, identifies and collects pertinent data, renders models that can be used for discussion and analysis, and presents the results in Fit for Purpose views that are useful for decision making. The inclusion of the Human Viewpoint during the system architecting stage allows the evaluation of human-system design trade-offs, recognises the impact of the human operator on system performance, and provides the foundation for Human System Integration evaluations during the ensuing system development.

Data Democracy Feras A. Batarseh 2020-01-21 Data Democracy: At the Nexus of Artificial Intelligence, Software Development, and Knowledge Engineering provides a manifesto to data democracy. After reading the chapters of this book, you are informed and suitably warned! You are already part of the data republic, and you (and all of us) need to ensure that our data fall in the right hands. Everything you click, buy, swipe, try, sell, drive, or fly is a data point. But who owns the data? At this point, not you! You do not even have access to most of it. The next best empire of our planet is one who owns and controls the world's best dataset. If you consume or create data, if you are a citizen of the data republic (willingly or

grudgingly), and if you are interested in making a decision or finding the truth through data-driven analysis, this book is for you. A group of experts, academics, data science researchers, and industry practitioners gathered to write this manifesto about data democracy. The future of the data republic, life within a data democracy, and our digital freedoms An in-depth analysis of open science, open data, open source software, and their future challenges A comprehensive review of data democracy's implications within domains such as: healthcare, space exploration, earth sciences, business, and psychology The democratization of Artificial Intelligence (AI), and data issues such as: Bias, imbalance, context, and knowledge extraction A systematic review of AI methods applied to software engineering problems

Satellite Communications Timothy Pratt 2019-10-08 Extensive revision of the best-selling text on satellite communications — includes new chapters on CubeSats, NGSO satellite systems, and Internet access by satellite There have been many changes in the thirty three years since the first edition of *Satellite Communications* was published. There has been a complete transition from analog to digital communication systems, with analog techniques replaced by digital modulation and digital signal processing. While distribution of television programming remains the largest sector of commercial satellite communications, low earth orbit constellations of satellites for Internet access are set to challenge that dominance. In this third edition, chapters one through three cover topics that are specific to satellites, including orbits, launchers, and spacecraft. Chapters four through seven cover the principles of digital communication systems, radio frequency communications, digital modulation and multiple access techniques, and propagation in the Earth ' s atmosphere, topics that are common to all radio communication systems. Chapters eight through twelve cover applications that include non-geostationary satellite systems, low throughput systems, direct broadcast satellite television, Internet access by satellite, and global navigation satellite systems. The chapter on Internet access by satellite is new to the third edition, and each of the chapters has been extensively revised to include the many changes in the field since the publication of the second edition in 2003. Two appendices have been added that cover digital transmission of analog signals and antennas. An invaluable resource for students and professionals alike, this book: Focuses on the fundamental theory of satellite communications Explains the underlying principles and essential mathematics required to understand the physics and engineering of satellite communications Discusses the expansion of satellite communication systems in areas such as direct-broadcast satellite TV, GPS, and Internet access Introduces the rapidly advancing field of small satellites, referred to as SmallSats or CubeSats Provides relevant practice problems based on real-world satellite systems *Satellite Communications* is required reading for undergraduate and postgraduate students in satellite communications courses and an authoritative reference for engineers working in communications, systems and networks, and satellite operations and management.

Proceedings of the EWG-DSS / DASIG Paris-2011 Joint-Workshop on Policy Analytics and Collaborative Decision Making F. Dargam 2010-11-30 EURO Working Group on Decision Support Systems Proceedings of the EWG-DSS / DASIG Paris-2011 Joint-Workshop on Policy Analytics and Collaborative Decision Making Paris, November 30th-December 1st, 2011

The Electronics Handbook Jerry C. Whitaker 2018-10-03 During the ten years since the appearance of the groundbreaking, bestselling first edition of *The Electronics Handbook*, the field has grown and changed tremendously. With a focus on fundamental theory and practical applications, the first edition guided novice and veteran engineers along the cutting edge in the design, production, installation, operation, and maintenance of electronic devices and systems. Completely updated and expanded to reflect recent advances, this second edition continues the tradition. *The Electronics Handbook, Second Edition* provides a comprehensive reference to the key concepts, models, and equations necessary to analyze, design, and predict the behavior of complex electrical devices, circuits, instruments, and systems. With 23 sections that encompass the entire electronics field, from classical devices and circuits to emerging technologies and applications, *The Electronics Handbook, Second Edition* not only covers the engineering aspects, but also includes sections on reliability, safety, and engineering management. The book features an individual table of contents at the beginning of each chapter, which enables engineers from industry, government, and academia to navigate easily to the vital information they need. This is truly the most comprehensive, easy-to-use reference on electronics available.

Encyclopedia of Computer Science and Technology Allen Kent 1992-03-20 "This comprehensive reference work provides immediate, fingertip access to state-of-the-art technology in nearly 700 self-contained articles written by over 900 international authorities. Each article in the *Encyclopedia* features current developments and trends in computers, software, vendors, and applications...extensive bibliographies of leading figures in the field, such as Samuel Alexander, John von Neumann, and Norbert Wiener...and in-depth analysis of future directions."

Software, Growth, and the Future of the U.S Economy National Research Council 2006-05-06 Starting in the mid 1990s, the United States economy experienced an unprecedented upsurge in economic productivity. Rapid technological change in communications, computing, and information management continue to promise further gains in productivity, a phenomenon often referred to as the New Economy. To better understand this phenomenon, the National Academies Board on Science, Technology, and Economic Policy (STEP) has convened a series of workshops and commissioned papers on Measuring and Sustaining the New Economy. This major workshop, entitled *Software, Growth, and the Future of the U.S. Economy*,

convened academic experts and industry representatives from leading companies such as Google and General Motors to participate in a high-level discussion of the role of software and its importance to U.S. productivity growth; how software is made and why it is unique; the measurement of software in national and business accounts; the implications of the movement of the U.S. software industry offshore; and related policy issues.

Embedded Systems Architecture Tammy Noergaard 2012-12-31 Embedded Systems Architecture is a practical and technical guide to understanding the components that make up an embedded system's architecture. This book is perfect for those starting out as technical professionals such as engineers, programmers and designers of embedded systems; and also for students of computer science, computer engineering and electrical engineering. It gives a much-needed 'big picture' for recently graduated engineers grappling with understanding the design of real-world systems for the first time, and provides professionals with a systems-level picture of the key elements that can go into an embedded design, providing a firm foundation on which to build their skills. Real-world approach to the fundamentals, as well as the design and architecture process, makes this book a popular reference for the daunted or the inexperienced: if in doubt, the answer is in here! Fully updated with new coverage of FPGAs, testing, middleware and the latest programming techniques in C, plus complete source code and sample code, reference designs and tools online make this the complete package Visit the companion web site at <http://booksite.elsevier.com/9780123821966/> for source code, design examples, data sheets and more A true introductory book, provides a comprehensive get up and running reference for those new to the field, and updating skills: assumes no prior knowledge beyond undergrad level electrical engineering Addresses the needs of practicing engineers, enabling it to get to the point more directly, and cover more ground. Covers hardware, software and middleware in a single volume Includes a library of design examples and design tools, plus a complete set of source code and embedded systems design tutorial materials from companion website

Naval Analytical Capabilities National Research Council 2005-09-26 Naval Analytical Capabilities assesses current Department of Defense initiatives and the Department of the Navy's progress in transitioning from a requirements-based to a capabilities-based organization. The report also provides recommendations aimed at improving the organizational structure of the Office of the Chief of Naval Operations to best position the Chief of Naval Operations to fulfill his Title 10 (U.S. Code on Armed Forces) responsibilities. This report addresses key elements of capabilities-based planning, examines Navy analytical processes, and recommends an approach to making improvements.

Parallel Computer Vision Leonard Uhr 2014-08-05 Parallel Computer Vision

Nanoelectronic Materials, Devices and Modeling Qiliang Li 2019-07-15 As CMOS scaling is approaching the fundamental physical limits, a wide range of new nanoelectronic materials and devices have been proposed and explored to extend and/or replace the current electronic devices and circuits so as to maintain progress with respect to speed and integration density. The major limitations, including low carrier mobility, degraded subthreshold slope, and heat dissipation, have become more challenging to address as the size of silicon-based metal oxide semiconductor field effect transistors (MOSFETs) has decreased to nanometers, while device integration density has increased. This book aims to present technical approaches that address the need for new nanoelectronic materials and devices. The focus is on new concepts and knowledge in nanoscience and nanotechnology for applications in logic, memory, sensors, photonics, and renewable energy. This research on nanoelectronic materials and devices will be instructive in finding solutions to address the challenges of current electronics in switching speed, power consumption, and heat dissipation and will be of great interest to academic society and the industry.

The Mobile Communications Handbook Jerry D. Gibson 1999-04 In a single volume, this handbook covers the entire field -- from principles of analog and digital communications to cordless telephones, wireless LANs, and international technology standards. The tremendous scope of this second edition ensures that its serving as the primary reference for every aspect of mobile communications. Details and references follow preliminary discussions, providing readers with the most accurate information available on the particular topic.

Systems Engineering and Management for Sustainable Development - Volume I Andrew P. Sage 2009-09-30 Systems Engineering and Management for Sustainable Development is a component of Encyclopedia of Technology, Information, and Systems Management Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. This theme discusses: basic principles of systems engineering and management for sustainable development, including: cost effectiveness assessment; decision assessment, tradeoffs, conflict resolution and negotiation; research and development policy; industrial ecology; and risk management strategies for sustainability. The emphasis throughout will be upon the development of appropriate life-cycles for processes that assist in the attainment of sustainable development, and in the use of appropriate policies and systems management approaches to ensure successful application of these processes. The general objectives of these chapters is to illustrate the way in which one specific issue, such as the need to bring about sustainable development, necessarily grows in scope such that it becomes only feasible to consider the engineering and architecting of appropriate systems when the specific issue is imbedded into a wealth of other issues. The discussions provide an illustration of the many attributes and needs associated with the important task of utilizing information and knowledge, enabled through systems engineering and management, to engineer systems involving humans, organizations,

and technology, in the support of sustainability. These two volumes are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

Text Mining Michael W. Berry 2010-02-25 Text Mining: Applications and Theory presents the state-of-the-art algorithms for text mining from both the academic and industrial perspectives. The contributors span several countries and scientific domains: universities, industrial corporations, and government laboratories, and demonstrate the use of techniques from machine learning, knowledge discovery, natural language processing and information retrieval to design computational models for automated text analysis and mining. This volume demonstrates how advancements in the fields of applied mathematics, computer science, machine learning, and natural language processing can collectively capture, classify, and interpret words and their contexts. As suggested in the preface, text mining is needed when “ words are not enough. ” This book: Provides state-of-the-art algorithms and techniques for critical tasks in text mining applications, such as clustering, classification, anomaly and trend detection, and stream analysis. Presents a survey of text visualization techniques and looks at the multilingual text classification problem. Discusses the issue of cybercrime associated with chatrooms. Features advances in visual analytics and machine learning along with illustrative examples. Is accompanied by a supporting website featuring datasets. Applied mathematicians, statisticians, practitioners and students in computer science, bioinformatics and engineering will find this book extremely useful.

Microprocessor-Based Control Systems N.K. Sinha 2012-12-06 Recent advances in LSI technology and the consequent availability of inexpensive but powerful microprocessors have already affected the process control industry in a significant manner. Microprocessors are being increasingly utilized for improving the performance of control systems and making them more sophisticated as well as reliable. Many concepts of adaptive and learning control theory which were considered impractical only 20 years ago are now being implemented. With these developments there has been a steady growth in hardware and software tools to support the microprocessor in its complex tasks. With the current trend of using several microprocessors for performing the complex tasks in a modern control system, a great deal of emphasis is being given to the topic of the transfer and sharing of information between them. Thus the subject of local area networking in the industrial environment has become assumed great importance. The object of this book is to present both hardware and software concepts that are important in the development of microprocessor-based control systems. An attempt has been made to obtain a balance between theory and practice, with emphasis on practical applications. It should be useful for both practicing engineers and students who are interested in learning the practical details of the implementation of microprocessor-based control systems. As some of the related material has been published in the earlier volumes of this series, duplication has been avoided as far as possible.

Intelligent Systems and Interfaces Horia-Nicolai Teodorescu 2012-12-06 This volume offers comprehensive coverage of intelligent systems, including fundamental aspects, software-, sensors-, and hardware-related issues. Moreover, the contributors to this volume provide, beyond a systematic overview of intelligent interfaces and systems, deep, practical knowledge in building and using intelligent systems in various applications. Special emphasis is placed on specific aspects and requirements in applications.