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*Digital Circuits* Ronald C. Emery 2020-11-25 This textbook is intended to introduce the student of electronics to the fundamentals of digital circuits, both combinational and sequential, in a reasonable and systematic manner. It proceeds from basic logic concepts to circuits and designs.

**Electrical, Control Engineering and Computer Science** Liu Jian 2015-12-30 Electrical, Control Engineering and Computer Science includes the papers from ECECS2015 (Hong Kong, 30-31 May 2015), which was organized by the American Society of Science and Engineering (ASEE), a non-profit society for engineers and scientists. Presenting new theories, ideas, techniques and experiences related to all aspects of electrical engineer

**Java How to Program** Paul J. Deitel 2011-11-21 This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. The Deitels' groundbreaking How to Program series offers unparalleled breadth and depth of object-oriented programming concepts and intermediate-level topics for further study. This survey of Java programming contains an optional extensive OOD/UML 2 case study on developing and implementing the software for an automated teller machine. The Eighth Edition of this acclaimed text is now current with the Java SE 6 updates that have occurred since the book was last published. The Late Objects Version delays coverage of class development until Chapter 8, presenting the control structures, methods and arrays material in a non-object-oriented, procedural programming context.

**Computer Programming with C++** Kunal Pimparkhede 2017-01-26 "Provides an in-depth explanation of the C and C++ programming languages along with the fundamentals of object oriented programming paradigm"--

**Computing Handbook, Third Edition** Teofilo Gonzalez 2014-05-07 Computing Handbook, Third Edition: Computer Science and Software Engineering mirrors the modern taxonomy of computer science and software engineering as described by the Association for Computing Machinery (ACM) and the IEEE Computer Society (IEEE-CS). Written by established leading experts and influential young researchers, the first volume of this popular handbook examines the elements involved in designing and implementing software, new areas in which computers are being used, and ways to solve computing problems. The book also explores our current understanding of software engineering and its effect on the practice of software development and the education of software professionals. Like the second volume, this first volume describes what occurs in research laboratories, educational institutions, and public and private organizations to advance the effective development and use of computers and computing in today's world. Research-level survey articles provide deep insights into the computing discipline, enabling readers to understand the principles and practices that drive computing education, research, and development in the twenty-first century.

*Computer Engineering* C. Gordon Bell 2014-05-12 Computer Engineering: A DEC View of Hardware Systems Design focuses on the principles, progress, and concepts in the design of hardware systems. The selection first elaborates on the seven views of computer systems, technology progress in logic and memories, and packaging and manufacturing. Concerns cover power supplies, DEC computer packaging generations, general packaging, semiconductor logic technology, memory technology, measuring (and creating) technology progress, structural levels of a computer system, and packaging levels-of-integration. The manuscript then examines transistor circuitry in the Lincoln TX-2, digital modules, PDP-1 and other 18-bit computers, PDP-8 and other 12-bit computers, and structural levels of the PDP-8. The text takes a look at cache memories for PDP-11 family computers, buses, DEC LSI-11, and design decisions for the PDP-11/60 mid-range minicomputer. Topics include reliability and maintainability, price/performance balance, advances in memory technology, synchronization of data transfers, error control strategies, PDP-11/45, PDP-11/20, and cache organization. The selection is a fine reference for practicing computer designers, users, programmers, designers of peripherals and memories, and students of computer engineering and computer science.

**The Beginner's Guide to Engineering** James Lance 2013-10-16 The Beginner's Guide to Engineering series is designed to provide a very simple, non-technical introduction to the fields of engineering for people with no experience in the fields. Each book in the series focuses on introducing the reader to the various concepts in the fields of engineering conceptually rather than mathematically. These books are a great resource for high school students that are considering majoring in one of the engineering fields, or for anyone else that is curious about engineering but has no background in the field. Books in the series: 1. The Beginner's Guide to Engineering: Chemical Engineering 2. The Beginner's Guide to Engineering: Computer Engineering 3. The Beginner's Guide to Engineering: Electrical Engineering 4. The Beginner's Guide to Engineering: Mechanical Engineering

**Principles of Computer System Design** Jerome H. Saltzer 2009-05-21 Principles of Computer System Design is the first textbook to take a principles-based approach to the computer system design. It identifies, examines, and illustrates fundamental concepts in computer system design that are common across operating systems, networks, database systems, distributed systems, programming languages, software engineering, security, fault tolerance, and architecture. Through the carefully analyzed case studies from each of these disciplines, it demonstrates how to apply these concepts to tackle practical system design problems. To support the focus on design, the text identifies and explains abstractions that have proven successful in practice such as remote procedure call, client/service organization, file systems, data integrity, consistency, and authenticated messages. Most computer systems are built using a handful of such abstractions. The text describes how these abstractions are implemented, demonstrates how they are used in different systems, and prepares the reader to apply them in future designs. The book is recommended for junior and senior undergraduate students in Operating Systems, Distributed Systems, Distributed Operating Systems and/or Computer Systems Design courses; and professional computer systems designers. Features: Concepts of computer system design guided by fundamental principles. Cross-cutting approach that identifies abstractions common to networking, operating systems, transaction systems, distributed systems, architecture, and software engineering. Case studies that make the abstractions real: naming (DNS and the URL); file systems (the UNIX file system); clients and services (NFS); virtualization (virtual machines); scheduling (disk arms); security (TLS). Numerous pseudocode fragments that provide concrete examples of abstract concepts. Extensive support. The authors and MIT OpenCourseWare provide on-line, free of charge, open educational resources, including additional chapters, course syllabi, board layouts and slides, lecture videos, and an archive of lecture schedules, class assignments, and design projects.

*Current Trends and Advances in Computer-Aided Intelligent Environmental Data Engineering* Goncalo Marques 2022-03-20 Current Trends and Advances in Computer-Aided Intelligent Environmental Data Engineering merges computer engineering and environmental engineering. The book presents the latest finding on how data science and AI-based tools are being applied in environmental engineering research. This application involves multiple domains such as data science and artificial intelligence to transform the data collected by intelligent sensors into relevant and reliable information to support decision-making. These tools include fuzzy logic, knowledge-based systems, particle swarm optimization, genetic algorithms, Monte Carlo simulation, artificial neural networks, support vector machine, boosted regression tree, simulated annealing, ant colony algorithm, decision tree, immune algorithm, and imperialist competitive algorithm. This book is a fundamental information source because it is the first book to present the foundational reference material in

this new research field. Furthermore, it gives a critical overview of the latest cross-domain research findings and technological developments on the recent advances in computer-aided intelligent environmental data engineering. Captures the application of data science and artificial intelligence for a broader spectrum of environmental engineering problems Presents methods and procedures as well as case studies where state-of-the-art technologies are applied in actual environmental scenarios Offers a compilation of essential and critical reviews on the application of data science and artificial intelligence to the entire spectrum of environmental engineering

**Encyclopedia of Computer Science and Technology** Phillip A. Laplante 2017-10-02 With breadth and depth of coverage, the Encyclopedia of Computer Science and Technology, Second Edition has a multi-disciplinary scope, drawing together comprehensive coverage of the inter-related aspects of computer science and technology. The topics covered in this encyclopedia include: General and reference Hardware Computer systems organization Networks Software and its engineering Theory of computation Mathematics of computing Information systems Security and privacy Human-centered computing Computing methodologies Applied computing Professional issues Leading figures in the history of computer science The encyclopedia is structured according to the ACM Computing Classification System (CCS), first published in 1988 but subsequently revised in 2012. This classification system is the most comprehensive and is considered the de facto ontological framework for the computing field. The encyclopedia brings together the information and historical context that students, practicing professionals, researchers, and academicians need to have a strong and solid foundation in all aspects of computer science and technology.

*A First Course in Electrical and Computer Engineering* Louis L. Scharf 1990

**Embedded Systems Design with 8051 Microcontrollers** Zdravko Karakehayov 2018-10-08 A presentation of developments in microcontroller technology, providing lucid instructions on its many and varied applications. It focuses on the popular eight-bit microcontroller, the 8051, and the 83C552. The text outlines a systematic methodology for small-scale, control-dominated embedded systems, and is accompanied by a disk of all the example problems included in the book.

**Information Technology and Computer Application Engineering** Hsiang-Chuan Liu 2013-10-11 This proceedings volume brings together some 189 peer-reviewed papers presented at the International Conference on Information Technology and Computer Application Engineering, held 27-28 August 2013, in Hong Kong, China. Specific topics under consideration include Control, Robotics, and Automation, Information Technology, Intelligent Computing and Telecommunication, Computer Science and Engineering, Computer Education and Application and other related topics. This book provides readers a state-of-the-art survey of recent innovations and research worldwide in Information Technology and Computer Application Engineering, in so-doing furthering the development and growth of these research fields, strengthening international academic cooperation and communication, and promoting the fruitful exchange of research ideas. This volume will be of interest to professionals and academics alike, serving as a broad overview of the latest advances in the dynamic field of Information Technology and Computer Application Engineering.

**Petroleum Production Engineering** Boyun Guo, 2017-02-10 Petroleum Production Engineering, Second Edition, updates both the new and veteran engineer on how to employ day-to-day production fundamentals to solve real-world challenges with modern technology. Enhanced to include equations and references with today's more complex systems, such as working with horizontal wells, workovers, and an entire new section of chapters dedicated to flow assurance, this go-to reference remains the most all-inclusive source for answering all upstream and midstream production issues. Completely updated with five sections covering the entire production spectrum, including well productivity, equipment and facilities, well stimulation and workover, artificial lift methods, and flow assurance, this updated edition continues to deliver the most practical applied production techniques, answers, and methods for today's production engineer and manager. In addition, updated Excel spreadsheets that cover the most critical production equations from the book are included for download. Updated to cover today's critical production challenges, such as flow assurance, horizontal and multi-lateral wells, and workovers Guides users from theory to practical application with the help of over 50 online Excel spreadsheets that contain basic production equations, such as gas lift potential, multilateral gas well deliverability, and production forecasting Delivers an all-inclusive product with real-world answers for training or quick look up solutions for the entire petroleum production spectrum

**What Every Engineer Should Know about Computer Modeling and Simulation** Ingels 1985-10-02 This book presents a brief description of what constitutes computer modeling and simulation with techniques given to get a feel for how some of the simulation software packages involving hundreds of thousands of lines of code were developed.

**Multimedia: Computing Communications & Applications** Ralf Steinmetz 2012

**Engineering the Computer Science and IT.** Safeullah Soomro 2009 It has been many decades, since Computer Science has been able to achieve tremendous recognition and has been applied in various fields, mainly computer programming and software engineering. Many efforts have been taken to improve knowledge of researchers, educationists and others in the field of computer science and engineering. This book provides a further insight in this direction. It provides innovative ideas in the field of computer science and engineering with a view to face new challenges of the current and future centuries. This book comprises of 25 chapters focusing on the basic and applied research in the field of computer science and information technology. It increases knowledge in the topics such as web programming, logic programming, software debugging, real-time systems, statistical modeling, networking, program analysis, mathematical models and natural language processing.

**Computer Electronics** J. F. B. Bourdillon 2014-05-21 Computer Electronics: Made Simple Computerbooks presents the basics of computer electronics and explains how a microprocessor works. Various types of PROMs, static RAMs, dynamic RAMs, floppy disks, and hard disks are considered, along with microprocessor support devices made by Intel, Motorola and Zilog. Bit slice logic and some AMD bit slice products are also described. Comprised of 14 chapters, this book begins with an introduction to the fundamentals of hardware design, followed by a discussion on the basic building blocks of hardware (NAND, NOR, AND, OR, NOT, XOR); tools and equipment that are required by a hardware engineer; and sequential logic. Subsequent chapters focus on analog components such as transistors, resistors, capacitors, diodes, crystals, and power supplies; data sheets and data books; timing diagrams; arithmetic using integrated circuits, with emphasis on full adders, arithmetic logic units, and arithmetic processing units. The final chapter describes how a project operates, how the computer-aided design process works, and how printed circuit boards are manufactured. This monograph will be of interest to students, engineers, and other practitioners in computer electronics.

*How Things Work* Charles F. Bowman 2021-08-26 It's axiomatic to state that people fear what they do not understand, and this is especially true when it comes to technology. However, despite their prevalence, computers remain shrouded in mystery, and many users feel apprehensive when interacting with them. Smartphones have only exacerbated the issue. Indeed, most users of these devices leverage only a small fraction of the power they hold in their hands. How Things Work: The Computer Science Edition is a roadmap for readers who want to overcome their technophobia and harness the full power of everyday technology. Beginning with the basics, the book demystifies the mysterious world of computer science, explains its fundamental concepts in simple terms, and answers the questions many users feel too intimidated to ask. By

the end of the book, readers will understand how computers and smart devices function and, more important, how they can make these devices work for them. To complete the picture, the book also introduces readers to the darker side of modern technology: security and privacy concerns, identity theft, and threats from the Dark Web.

**Chemical Engineering Primer with Computer Applications** Hussein K. Abdel-Aal 2016-10-14 Taking a highly pragmatic approach to presenting the principles and applications of chemical engineering, this companion text for students and working professionals offers an easily accessible guide to solving problems using computers. The primer covers the core concepts of chemical engineering, from conservation laws all the way up to chemical kinetics, without heavy stress on theory and is designed to accompany traditional larger core texts. The book presents the basic principles and techniques of chemical engineering processes and helps readers identify typical problems and how to solve them. Focus is on the use of systematic algorithms that employ numerical methods to solve different chemical engineering problems by describing and transforming the information. Problems are assigned for each chapter, ranging from simple to difficult, allowing readers to gradually build their skills and tackle a broad range of problems. MATLAB and Excel® are used to solve many examples and the more than 70 real examples throughout the book include computer or hand solutions, or in many cases both. The book also includes a variety of case studies to illustrate the concepts and a downloadable file containing fully worked solutions to the book's problems on the publisher's website. Introduces the reader to chemical engineering computation without the distractions caused by the contents found in many texts. Provides the principles underlying all of the major processes a chemical engineer may encounter as well as offers insight into their analysis, which is essential for design calculations. Shows how to solve chemical engineering problems using computers that require numerical methods using standard algorithms, such as MATLAB® and Excel®. Contains selective solved examples of many problems within the chemical process industry to demonstrate how to solve them using the techniques presented in the text. Includes a variety of case studies to illustrate the concepts and a downloadable file containing fully worked solutions to problems on the publisher's website. Offers non-chemical engineers who are expected to work with chemical engineers on projects, scale-ups and process evaluations a solid understanding of basic concepts of chemical engineering analysis, design, and calculations.

**Software Design** Murali Chemuturi 2018-04-09 This book is perhaps the first attempt to give full treatment to the topic of Software Design. It will facilitate the academia as well as the industry. This book covers all the topics of software design including the ancillary ones.

**Formal Methods in Computer Science** Jiacun Wang 2019-06-21 This textbook gives students a comprehensive introduction to formal methods and their application in software and hardware specification and verification. It has three parts: The first part introduces some fundamentals in formal methods, including set theory, functions, finite state machines, and regular expressions. The second part focuses on logi

**Application Of Omics, Ai And Blockchain In Bioinformatics Research** Tsai Jeffrey J P 2019-10-14 With the increasing availability of omics data and mounting evidence of the usefulness of computational approaches to tackle multi-level data problems in bioinformatics and biomedical research in this post-genomics era, computational biology has been playing an increasingly important role in paving the way as basis for patient-centric healthcare. Two such areas are: (i) implementing AI algorithms supported by biomedical data would deliver significant benefits/improvements towards the goals of precision medicine (ii) blockchain technology will enable medical doctors to securely and privately build personal healthcare records, and identify the right therapeutic treatments and predict the progression of the diseases. A follow-up in the publication of our book Computation Methods with Applications in Bioinformatics Analysis (2017), topics in this volume include: clinical bioinformatics, omics-based data analysis, Artificial Intelligence (AI), blockchain, big data analytics, drug discovery, RNA-seq analysis, tensor decomposition and Boolean network.

**Careers in Computer Hardware Engineering** Institute for Career Research 2014-07-16 Everything you need to know to pursue and begin a career in one of today's most promising fields, Computer Hardware Engineering. From the history of the profession to detailed information on getting started, relative descriptions and appeals of all the different types of fields within computer hardware engineering, the skills and qualifications needed, the attractive features and drawbacks of such a career, a detailed description of the job, work duties and environment, all of the opportunities within the field including those within government, stories of working computer engineers and details on advancement, specializations, earnings and more, as well as a glossary with up-to-date information including the best education and training references and all relative professional associations, Careers in Computer Hardware Engineering is the number one go-to book for anyone considering a career in this exciting field of work.

**Computer Animation Complete** Rick Parent 2009-10-13 A compilation of key chapters from the top MK computer animation books available today - in the areas of motion capture, facial features, solid spaces, fluids, gases, biology, point-based graphics, and Maya. The chapters provide CG Animators with an excellent sampling of essential techniques that every 3D artist needs to create stunning and versatile images. Animators will be able to master myriad modeling, rendering, and texturing procedures with advice from MK's best and brightest authors. Divided into five parts (Introduction to Computer Animation and Technical Background, Motion Capture Techniques, Animating Substances, Alternate Methods, and Animating with MEL for MAYA), each one focusing on specific substances, tools, topics, and languages, this is a MUST-HAVE book for artists interested in proficiency with the top technology available today! Whether you're a programmer developing new animation functionality or an animator trying to get the most out of your current animation software, Computer Animation Complete: will help you work more efficiently and achieve better results. For programmers, this book provides a solid theoretical orientation and extensive practical instruction information you can put to work in any development or customization project. For animators, it provides crystal-clear guidance on determining which of your concepts can be realized using commercially available products, which demand custom programming, and what development strategies are likely to bring you the greatest success. Expert instruction from a variety of pace-setting computer graphics researchers. Provides in-depth coverage of established and emerging animation algorithms. For readers who lack a strong scientific background, introduces the necessary concepts from mathematics, biology, and physics. A variety of individual languages and substances are addressed, but addressed separately - enhancing your grasp of the field as a whole while providing you with the ability to identify and implement solutions by category.

**Computer Games and Software Engineering** Kendra M. L. Cooper 2015-05-08 Computer games represent a significant software application domain for innovative research in software engineering techniques and technologies. Game developers, whether focusing on entertainment-market opportunities or game-based applications in non-entertainment domains, thus share a common interest with software engineers and developers on how to best engineer game software. Featuring contributions from leading experts in software engineering, the book provides a comprehensive introduction to computer game software development that includes its history as well as emerging research on the interaction between these two traditionally distinct fields. An ideal reference for software engineers, developers, and researchers, this book explores game programming and development from a software engineering perspective. It introduces the latest research in computer game software engineering (CGSE) and covers topics such as HALO (Highly Addictive, socially Optimized) software engineering, multi-player outdoor smartphone games, gamifying sports software, and artificial intelligence in games. The book explores the use of games in software engineering education extensively. It also covers game software requirements engineering, game software architecture and design approaches, game software testing and usability assessment, game development frameworks and reusability techniques, and game scalability infrastructure, including support for mobile devices and web-based services.

**The Computer Engineering Handbook** Vojin G. Oklobdzija 2001-12-26 There is arguably no field in greater need of a comprehensive handbook than computer engineering. The unparalleled rate of technological advancement, the explosion of computer applications, and the now-in-progress migration to a wireless world have made it difficult for engineers to keep up with all the developments in specialties outside their own

**Emerging Artificial Intelligence Applications in Computer Engineering** Ilias G. Maglogiannis 2007-01-01 "The ever expanding abundance of information and computing power enables researchers and users to tackle highly interesting issues for the first time, such as applications providing personalized access and interactivity to multimodal information based on user preferences and semantic concepts or human-machine interface systems utilizing information on the affective state of the user. The purpose of this book is to provide insights on how today's computer engineers can implement AI in real world applications. Overall, the field of artificial intelligence is extremely broad. In essence, AI has found applications, in one way or another, in every aspect of computing and in most aspects of modern life. Consequently, it is not possible to provide a complete review of the field in the framework of a single book, unless if the review is broad rather than deep. In this book we have chosen to present selected current and emerging practical applications of AI, thus allowing for a more detailed presentation of topics. The book is organized in four parts; General Purpose Applications of AI; Intelligent Human-Computer Interaction; Intelligent Applications in Signal Processing and eHealth; and Real world AI applications in Computer Engineering."

**Power Distribution Engineering** James J. Burke 2017-12-19 "Covering virtually all areas of distribution engineering, this complete reference work examines the unique behavior of utilities and provides the practical knowledge necessary to solve real-world distribution problems. "

**Proceedings of International Conference on Advances in Computer Engineering and Communication Systems** C. Kiran Mai 2021-01-22 This book comprises the best deliberations with the theme "Smart Innovations in Mezzanine Technologies, Data Analytics, Networks and Communication Systems" in the "International Conference on Advances in Computer Engineering and Communication Systems (ICACECS 2020)", organized by the Department of Computer Science and Engineering, VNR Vignana Jyothi Institute of Engineering and Technology. The book provides insights on the recent trends and developments in the field of computer science with a special focus on the mezzanine technologies and creates an arena for collaborative innovation. The book focuses on advanced topics in artificial intelligence, machine learning, data mining and big data computing, cloud computing, Internet on things, distributed computing and smart systems.

**Handbook of Electrical Engineering Calculations** Arun G. Phadke 2018-10-03 Written by experienced teachers and recognized experts in electrical engineering, Handbook of Electrical Engineering Calculations identifies and solves the seminal problems with numerical techniques for the principal branches of the field -- electric power, electromagnetic fields, signal analysis, communication systems, control systems, and computer engineering. It covers electric power engineering, electromagnetics, algorithms used in signal analysis, communication systems, algorithms used in control systems, and computer engineering. Illustrated with detailed equations, helpful drawings, and easy-to-understand tables, the book serves as a practical, on-the-job reference.

**29th European Symposium on Computer Aided Chemical Engineering** Anton A. Kiss 2019-07-03 The 29th European Symposium on Computer Aided Process Engineering, contains the papers presented at the 29th European Symposium of Computer Aided Process Engineering (ESCAPE) event held in Eindhoven, The Netherlands, from June 16-19, 2019. It is a valuable resource for chemical engineers, chemical process engineers, researchers in industry and academia, students, and consultants for chemical industries. Presents findings and discussions from the 29th European Symposium of Computer Aided Process Engineering (ESCAPE) event

**Basic Computer Engineering Precise** WILEY. 2012-10

**The Elements of Computing Systems** Noam Nisan 2008 This title gives students an integrated and rigorous picture of applied computer science, as it comes to play in the construction of a simple yet powerful computer system.

**Software Engineering** Pflieger 2008-09

**Introduction to Game Development** Steve Rabin 2010 Based on the most recent curriculum guidelines of the IGDA, updated in 2008, "Introduction to Game Development, Second Edition" surveys all aspects of the theory and practice of game development, design, and production. Divided into seven independent parts: Critical Game Studies, Game Design, Game Programming (Languages and Architecture), Game Programming Mathematics, Collision Detection, and Physics), Game Programming (Graphics, Animation, Artificial Intelligence, Audio, and Networking), Audio Visual Design and Production, and Game Production and the Business of Games, it features contributions from twenty seven of the leading game developers, programmers, and designers. A must-have resource for anyone looking to understand the entire game development process, the accompanying CD-ROM includes tutorials, animations, images, demos, source code, and PowerPoint lecture slides that reinforce the concepts presented in the book.

**Real-time Systems** C. M. Krishna 1997 This work covers all the major issues that go into designing a real-time system, including task allocation, synchronization, fault-tolerance and reliability. Also included are exercises, performance measures, scheduling, real-time architectures and algorithms.

**Computer Systems Engineering Management** Robert S. Alford 2018-01-18 Computer Systems Engineering Management provides a superb guide to the overall effort of computer systems bridge building. It explains what to do before you get to the river, how to organize your work force, how to manage the construction, and what do when you finally reach the opposite shore. It delineates practical approaches to real-world development issues and problems presents many examples and case histories and explains techniques that apply to everything from microprocessors to mainframes and from person computer applications to extremely sophisticated systems

**The Technical and Social History of Software Engineering** Capers Jones 2013-11-21 "Capers Jones has accumulated the most comprehensive data on every aspect of software engineering, and has performed the most scientific analysis on this data. Now, Capers performs yet another invaluable service to our industry, by documenting, for the first time, its long and fascinating history. Capers' new book is a must-read for every software engineering student and information technology professional." - From the Foreword by Tony Salvaggio, CEO and president, Computer Aid, Inc. Software engineering is one of the world's most exciting and important fields. Now, pioneering practitioner Capers Jones has written the definitive history of this world-changing industry. Drawing on several decades as a leading researcher and innovator, he illuminates the field's broad sweep of progress and its many eras of invention. He assesses the immense impact of software engineering on society, and previews its even more remarkable future. Decade by decade, Jones examines trends, companies, winners, losers, new technologies, productivity/quality issues, methods, tools, languages, risks, and more. He reviews key inventions, estimates industry growth, and addresses "mysteries" such as why programming languages gain and lose popularity. Inspired by Paul Starr's Pulitzer Prize-winning *The Social Transformation of American Medicine*, Jones' new book is a tour de force—and compelling reading for everyone who wants to understand how software became what it is today. **COVERAGE INCLUDES** • The human need to compute: from ancient times to the modern era • Foundations of computing: Alan Turing, Konrad Zuse, and World War II • Big business, big defense, big systems: IBM, mainframes, and COBOL • A concise history of minicomputers and microcomputers: the birth of Apple and Microsoft • The PC era: DOS, Windows, and the rise of commercial software • Innovations in writing and managing code: structured development, objects, agile, and more • The birth and explosion of the Internet and the World Wide Web • The growing challenges of legacy system maintenance and support • Emerging innovations, from wearables to intelligent agents to quantum computing • Cybercrime, cyberwarfare, and large-scale software failure

**Theory and Design of Broadband Matching Networks** Wai-Kai Chen 2013-10-22 Theory and Design of Broadband Matching Networks centers on the network theory and its applications to the design of broadband matching networks and amplifiers. Organized into five chapters, this book begins with a description of the foundation of network theory. Chapter 2 gives a fairly complete exposition of the scattering matrix associated with an n-port network. Chapter 3 considers the approximation problem along with a discussion of the approximating functions. Chapter 4 explains the Youla's theory of broadband matching by illustrating every phase of the theory with fully worked out examples. The extension of Youla's theory to active load impedance is taken up in Chapter 5. This book will be useful as a reference for practicing engineers who wish to learn how the modern network theory can be applied to the design of many practical circuits.