

Code New Macmillan Digital

Communications technologies increasingly pervade our everyday lives, yet the underlying principles are a mystery to most. Even among engineers and technicians, understanding of this complex subject remains limited. However, there is undeniably a growing need for all technology disciplines to gain intimate awareness of how their fields are affected by a more densely networked world. The computer science field in particular is profoundly affected by the growing dominance of communications, and computer scientists must increasingly engage with electrical engineering concepts. Yet communications technology is often perceived as a challenging subject with a steep learning curve. To address this need, the authors have transformed classroom-tested materials into this accessible textbook to give readers an intimate understanding of fundamental communications concepts. Readers are introduced to the key essentials, and each selected topic is discussed in detail to promote mastery. Engineers and computer scientists will gain an understanding of concepts that can be readily applied to their respective fields, as well as provide the foundation for more advanced study of communications. Provides a thorough grounding in the basics by focusing on select key concepts Clarifies comprehension of the subject via detailed explanation and illustration Helps develop an intuitive sense of both digital and analog principles Introduces key broadcasting, wireless and wired systems Helps bridge the knowledge gap between software and electrical engineering Requires only basic calculus and trigonometry skills Classroom tested in undergraduate CS and EE programs Communications Engineering by Lee, Chiu, and Lin will give advanced undergraduates in computer science and beginning students of electrical engineering a rounded understanding of communications technologies. The book also serves as a key introduction to specialists in industry, or anyone who desires a working understanding of communications technologies.

This edited volume focuses on big data implications for computational social science and humanities from management to usage. The first part of the book covers geographic data, text corpus data, and social media data, and exemplifies their concrete applications in a wide range of fields including anthropology, economics, finance, geography, history, linguistics, political science, psychology, public health, and mass communications. The second part of the book provides a panoramic view of the development of big data in the fields of computational social sciences and humanities. The following questions are addressed: why is there a need for novel data governance for this new type of data?, why is big data important for social scientists?, and how will it revolutionize the way social scientists conduct research? With the advent of the information age and technologies such as Web 2.0, ubiquitous computing, wearable devices, and the Internet of Things, digital society has fundamentally changed what we now know as "data", the very use of this data, and what we now call "knowledge". Big data has become the standard in social sciences, and has made these sciences more computational. Big Data in Computational Social Science and Humanities will appeal to graduate students and researchers working in the many subfields of the social sciences and humanities. Featuring specially commissioned chapters from experts in the field of media and communications law, this book provides an authoritative survey of media law from a comparative perspective. The handbook does not simply offer a synopsis of the state of affairs in media law jurisprudence, rather it provides a better understanding of the forces that generate media rules, norms, and standards against the background of major transformations in the way information is mediated as a result of democratization, economic development, cultural change, globalization and technological innovation. The book addresses a range of issues including: Media Law and Evolving Concepts of Democracy Network neutrality and traffic management Public Service Broadcasting in Europe Interception of Communication and Surveillance in Russia State secrets, leaks and the media A variety of rule-making institutions

are considered, including administrative, and judicial entities within and outside government, but also entities such as associations and corporations that generate binding rules. The book assesses the emerging role of supranational economic and political groupings as well as non-Western models, such as China and India, where cultural attitudes toward media freedoms are often very different. Monroe E. Price is Director of the Center for Global Communication Studies at the Annenberg School for the University of Pennsylvania and Joseph and Sadie Danciger Professor of Law and Director of the Howard M. Squadron Program in Law, Media and Society at the Cardozo School of Law. Stefaan Verhulst is Chief of Research at the Markle Foundation. Previously he was the co-founder and co-director, with Professor Monroe Price, of the Programme in Comparative Media Law and Policy (PCMLP) at Oxford University, as well as senior research fellow at the Centre for Socio Legal Studies. Libby Morgan is the Associate Director of the Center for Global Communication Studies at the Annenberg School for the University of Pennsylvania.

How should coded communication be approached? Is it about probability theorems and bounds, or about algorithms and structures? The traditional course in information theory and coding teaches these together in one course in which the Shannon theory, a probabilistic theory of information, dominates. The theory's predictions and bounds to performance are valuable to the coding engineer, but coding today is mostly about structures and algorithms and their size, speed and error performance. While coding has a theoretical basis, it has a practical side as well, an engineering side in which costs and benefits matter. It is safe to say that most of the recent advances in information theory and coding are in the engineering of coding. These thoughts motivate the present text book: A coded communication book based on methods and algorithms, with information theory in a necessary but supporting role. There has been much recent progress in coding, both in the theory and the practice, and these pages report many new advances. Chapter 2 covers traditional source coding, but also the coding of real one-dimensional sources like speech and new techniques like vector quantization. Chapter 4 is a unified treatment of trellis codes, beginning with binary convolutional codes and passing to the new trellis modulation codes.

A guide to journalistic ethics for today's digital technologies With contributions from an international panel of experts on the topic, *News Media Innovation Reconsidered* offers a guide for the revitalizing of the ethical and civil ideals of journalism. The authors discuss how to energize journalistic practices and products and explore how to harness the power of digital technological innovations such as immersive journalism, the automatization and personalization of news, newsgames, and artificial-intelligence news production. The book presents an innovative framework of "creative reconstruction" and reviews new journalistic concepts, models, initiatives, and practices that clearly demonstrate professional ethics that embrace truth seeking, transparency, fact checking, and accuracy, and other ethical considerations. While the contributors represent numerous countries, many of examples are drawn from the Spanish-speaking media and can serve as models for an international audience. This important book: Explores the impact on the news media from mobile-first, virtual reality, and artificial intelligence-driven platforms Examines the challenges of maintaining journalistic ethics in today's digital world Demonstrates how to use technology to expose readers to news outside their comfort zones Provides information for discerning truth from fake news Written for researchers, students in journalism and communication programs, *New Media Innovation Reconsidered* offers a much-needed guide for recreating journalistic ethics in our digital age.

Virtual worlds are places where humans interact, and as such they can be environments for research and learning. However, they are complex and mutable in ways that more controlled and traditional environments are not. Although computer-mediated, virtual worlds are multifaceted social systems like the offline world, and choosing to study virtual world

phenomena demands as much consideration for the participants, the environment and the researcher as offline. By exploring virtual worlds as places of research and learning, the international practitioners in this book demonstrate the power of these worlds to replicate and extend our arenas of research and learning. They focus on process and outcomes and consider questions that arise from engaging in teaching and research in these spaces, including new approaches to research ethics, internationalization, localization, and collaboration in virtual worlds. This book was originally published as a special issue of Learning, Media & Technology.

Pulse Code Modulation Techniques brings together the theory and practice of PCM at the physical layer, where the "bits meet the silicon", so to speak. The key topics of symbol encoding, detection and synchronization are discussed, in detail, both from a theoretical and a practical standpoint. Topics which have been largely absent in text books, such as multiplexing, formatting and format synchronization, are also considered. Although PCM evolved as a communication technology, it has become an important technology in data recording. In a sense, magnetic or optical media are just specialized communication media and the key technologies discussed in this book are just as important to recording applications as to communications. PCM codes used for magnetic recording applications are discussed along with traditional communication codes. The design, analysis and implementation of a PCM system requires knowledge of very specific techniques associated with detection, synchronization and coding. The techniques have evolved from both ad hoc methods and complex theory. One of the goals of this book is to bridge the gap between theory and practice in the key techniques. Matched filters are not only discussed theoretically, but means for implementing them are also considered. The same is true with symbol synchronization. The DSL arena is expanding rapidly, making it highly unlikely that any single author can adequately address the breadth and depth of the subject. Responding to the demand of designers worldwide, Fundamentals of DSL Technology combines the strengths of the field's most renowned DSL experts, providing a foundation of all aspects of DSL system design. "This book emphasizes the convergence and trajectory of automatic identification and location-based services toward chip implants and real-time positioning capabilities"--Provided by publisher.

Technology-Enhanced Language Learning for Specialized Domains provides an exploration of the latest developments in technology-enhanced learning and the processing of languages for specific purposes. It combines theoretical and applied research from an interdisciplinary angle, covering general issues related to learning languages with computers, assessment, mobile-assisted language learning, the new language massive open online courses, corpus-based research and computer-assisted aspects of translation. The chapters in this collection include contributions from a number of international experts in the field with a wide range of experience in the use of technologies to enhance the language learning process. The essays have been brought together precisely in recognition of the demand for this kind of specialised tuition, offering state-of-the-art technological and methodological innovation and practical applications. The topics covered revolve around the practical consequences of the current possibilities of mobility for both learners and teachers, as well as the applicability of updated technological advances to language learning and teaching, particularly in specialized domains. This is achieved through the description and discussion of practical examples of those applications in a variety of educational contexts. At the beginning of each thematic section, readers will find an introductory chapter which contextualises the topic and links the different examples discussed. Drawing together rich primary research and empirical studies related to specialized tuition and the processing of languages, Technology-Enhanced Language Learning for Specialized Domains will be an invaluable resource for academics, researchers and postgraduate students in the fields of education, computer assisted language learning, languages and linguistics, and

language teaching.

This highly-anticipated volume has been extensively revised to reflect changes in technology, digital humanities methods and practices, and institutional culture surrounding the valuation and publication of digital scholarship. A fully revised edition of a celebrated reference work, offering the most comprehensive and up-to-date collection of research currently available in this rapidly evolving discipline Includes new articles addressing topical and provocative issues and ideas such as retro computing, desktop fabrication, gender dynamics, and globalization Brings together a global team of authors who are pioneers of innovative research in the digital humanities Accessibly structured into five sections exploring infrastructures, creation, analysis, dissemination, and the future of digital humanities Surveys the past, present, and future of the field, offering essential research for anyone interested in better understanding the theory, methods, and application of the digital humanities

"This book is designed to provide readers with relevant theoretical frameworks and latest technical and institutional solutions for transcoding multimedia in mobile and wireless networks"--Provided by publisher.

This companion is a cutting-edge primer to critical forms of the posthumanities and the feminist posthumanities, aimed at students and researchers who want to catch up with the recent theoretical developments in various fields in the humanities, such as new media studies, gender studies, cultural studies, science and technology studies, human animal studies, postcolonial critique, philosophy and environmental humanities. It contains a collection of nineteen new and original short chapters introducing influential concepts, ideas and approaches that have shaped and developed new materialism, inhuman theory, critical posthumanism, feminist materialism, and posthuman philosophy. A resource for students and teachers, this comprehensive volume brings together established international scholars and emerging theorists, for timely and astute definitions of a moving target – posthuman humanities and feminist posthumanities.

This reader brings together the essential readings that have emerged in Digital Humanities. It provides a historical overview of how the term 'Humanities Computing' developed into the term 'Digital Humanities', and highlights core readings which explore the meaning, scope, and implementation of the field. To contextualize and frame each included reading, the editors and authors provide a commentary on the original piece. There is also an annotated bibliography of other material not included in the text to provide an essential list of reading in the discipline.

Get the fundamental concepts, latest design techniques, and the most advanced architectures for tackling critical wireless communication problems such as capacity, error correction, and channel interference with this new book. It provides you with concepts that include signal interference avoidance and management as part of the design, and other forms of signal hardening -- such as error correction, advanced coding, and convolution -- and signal-shaping techniques -- such as source coding, baseband signal shaping, adaptive air interfaces, RF signal shaping, and smart antenna technologies.

An alphabetical exploration of the world of codes and ciphers and significant individuals involved in that field.

As colleges and universities in North America increasingly identify "internationalization" as a key component of the institution's mission and strategic plans, faculty and administrators are charged with finding innovative and cost-effective approaches to meet those goals. This volume provides an overview and concrete examples of globally-networked learning environments across the humanities from the perspective of all of their stakeholders: teachers, instructional designers, administrators and students. By addressing logistical, technical, pedagogical and intercultural aspects of globally-networked teaching, this volume offers a unique perspective on this form of curricular innovation through internationalization. It speaks directly to the ways in which new technologies and pedagogies can promote humanities-based

learning for the future and with it the broader essential skills of intercultural sensitivity, communication and collaboration, and critical thinking.

Big Data in Computational Social Science and Humanities Springer

The Sociolinguistics of Digital Englishes introduces core areas of sociolinguistics and explores how each one has been transformed by the current era of digital communication and the Internet. Addressing the changing dynamics of English(es) in the digital age, this groundbreaking book: discusses the spread of English and its current status as a global language; demonstrates how key concepts such as language change, speech communities, gender construction and code-switching are affected by digital communications; analyzes examples of the interaction of Englishes and social media such as Facebook, Twitter and Urban Dictionary; and provides questions for discussion and further reading with each chapter. Accessible and innovative, this book will be key reading for all students studying sociolinguistics and digital communication or with an interest in language in the globalized multimedia world.

Providing in-depth treatment of error correction Error Correction Coding: Mathematical Methods and Algorithms, 2nd Edition provides a comprehensive introduction to classical and modern methods of error correction. The presentation provides a clear, practical introduction to using a lab-oriented approach. Readers are encouraged to implement the encoding and decoding algorithms with explicit algorithm statements and the mathematics used in error correction, balanced with an algorithmic development on how to actually do the encoding and decoding. Both block and stream (convolutional) codes are discussed, and the mathematics required to understand them are introduced on a "just-in-time" basis as the reader progresses through the book. The second edition increases the impact and reach of the book, updating it to discuss recent important technological advances. New material includes: Extensive coverage of LDPC codes, including a variety of decoding algorithms. A comprehensive introduction to polar codes, including systematic encoding/decoding and list decoding. An introduction to fountain codes. Modern applications to systems such as HDTV, DVBT2, and cell phones Error Correction Coding includes extensive program files (for example, C++ code for all LDPC decoders and polar code decoders), laboratory materials for students to implement algorithms, and an updated solutions manual, all of which are perfect to help the reader understand and retain the content. The book covers classical BCH, Reed Solomon, Golay, Reed Muller, Hamming, and convolutional codes which are still component codes in virtually every modern communication system. There are also fulsome discussions of recently developed polar codes and fountain codes that serve to educate the reader on the newest developments in error correction.

Next Generation Wireless Systems and Networks offers an expert view of cutting edge Beyond 3rd Generation (B3G) wireless applications. This self-contained reference combines the basics of wireless communications, such as 3G wireless standards, spread spectrum and CDMA systems, with a more advanced level research-oriented approach to B3G communications, eliminating the need to refer to other material. This book will provide readers with the most up-to-date technological developments in wireless communication systems/networks and introduces the major 3G standards, such as W-CDMA, CDMA2000 and TD-SCDMA. It also includes a focus on cognitive radio technology and 3GPP E-UTRA technology; areas which have not been well covered elsewhere. Covers many hot topics in the area of next generation wireless from the authors' own research, including: Bluetooth, all-IP wireless networking, power-efficient and bandwidth-efficient air-link technologies, and multi-user signal processing in B3G wireless Clear, step-by-step progression throughout the book will provide the reader with a thorough grounding in the basic topics before moving on to more advanced material Addresses various important topics on wireless communication systems and networks that have emerged only very recently, such as Super-3G technology, 4G wireless, UWB, OFDMA and MIMO Includes a wealth of explanatory tables and illustrations This essential reference will

prove invaluable to senior undergraduate and postgraduate students, academics and researchers. It will also be of interest to telecommunications engineers wishing to further their knowledge in this field.

The revitalisation of audience studies is not only about new approaches and methods; it entails a crossing of disciplines and a bridging of long-established boundaries in the field. The aim of this volume is to capture the boundary-crossing processes that have begun to emerge across the discipline in the form of innovative, interdisciplinary interventions in the audience research agenda. Contributions to this volume seek to further this process through innovative, audience-oriented perspectives that firmly anchor media engagement within the diversity of contexts and purposes to which people incorporate media in their daily lives, in ways often unanticipated by industries and professionals.

A complete and in-depth introduction to computer networks and networking In this first volume of *The Handbook of Computer Networks*, readers will get a complete overview of the key concepts of computers networks, data transmission, and digital and optical networks. Providing a comprehensive examination of computer networks, the book is designed for both undergraduate students and professionals working in a variety of computer network-dependent industries. With input from over 270 experts in the field, the text offers an easy-to-follow progression through each topic and focuses on fields and technologies that have widespread application in the real world.

Theory and Applications of OFDM and CDMA is an ideal foundation textbook for those seeking a sound knowledge of this fast-developing field of wideband communications. The advanced transmission techniques of OFDM, applied in wireless LANs and in digital and video broadcasting, and CDMA, the foundation of 3G mobile communications, have been part of almost every communication system that has been designed in recent years, with both offering a high degree of flexibility in adjusting the system to the requirements of the application and to the impairments caused by the transmission channel. Starting from the basics of digital transmission theory, the reader gains a comprehensive overview of the underlying ideas of these techniques and their strengths and weaknesses under various conditions. In this context, the specific requirements of the mobile radio channel and their relevance for the design of digital transmission systems are discussed and related to the items of channel coding and modulation. Clear explanation of the basics of digital communications, mobile radio channels, coding and modulation, OFDM as a multicarrier system and CDMA as an application of spread spectrum techniques Discusses the most important mobile radio and digital broadcasting systems that use OFDM and CDMA, and explains in detail the underlying ideas for the choice of system parameters Progresses from the fundamentals of wideband communication through to modern applications Includes a Companion Website featuring a solutions manual, electronic versions of the figures and other useful resources This volume will be an invaluable resource to advanced undergraduate students and first/second year postgraduates of electrical and engineering and telecommunications. It will also appeal to practising engineers, researchers and those in academia who wish to expand their knowledge on modern aspects of digital communications and systems in a mobile radio environment.

A comprehensive introduction to the complex fields of signal coding and signal processing.

A software radio is a radio whose channel modulation waveforms are defined in software. All wireless telephones are controlled by this software. Written by the leader in the field, this book covers the technology that will allow cellular telephones to greatly expand the types of data they can transmit.

Net Works offers an inside look into the process of successfully developing thoughtful, innovative digital media. In many practice-based art texts and classrooms, technology

is divorced from the socio-political concerns of those using it. Although there are many resources for media theorists, practice-based students sometimes find it difficult to engage with a text that fails to relate theoretical concerns to the act of creating. *Net Works* strives to fill that gap. Using websites as case studies, each chapter introduces a different style of web project--from formalist play to social activism to data visualization--and then includes the artists' or entrepreneurs' reflections on the particular challenges and outcomes of developing that web project. Scholarly introductions to each section apply a theoretical frame for the projects. A companion website offers further resources for hands-on learning. Combining practical skills for web authoring with critical perspectives on the web, *Net Works* is ideal for courses in new media design, art, communication, critical studies, media and technology, or popular digital/internet culture.

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.

Code Division Multiple Access (CDMA) has become one of the main candidates for the next generation of mobile land and satellite communication systems. CDMA is based on spread spectrum techniques, which have been used in military applications for over half a century. Only recently, however, has it been recognised that spread spectrum techniques, combined with some additional steps, can provide higher capacity and better flexibility for the mobile cellular radio communications. *Code Division Multiple Access Communications* comprises a set of contributions from the most distinguished world scientists in the field. These papers review the basic theory and some of the most important problems related to spread spectrum and CDMA. The topics covered centre on the information theory aspects of CDMA; interference suppression and performance analysis. The material presented in this book summarises the main problems in modern CDMA theory and practice and gives a solid starting point for studying this complex and still challenging field. As such *Code Division Multiple Access Communications* is essential reading for all researchers and designers working in mobile communication systems and provides an excellent text for a course on the subject.

Designing Globally Networked Learning Environments brings together 25 educators from four continents, who share their richly diverse visions for teaching and learning in a globally networked world. What unites these visions is that they break with traditional models of repackaging traditional institutionally bounded courses for online delivery in global markets.

A novel application of fast decodable invertible convolutional codes for lost packet recovery in high speed networks is described. This opens the door for using convolutional coding for error recovery in high speed networks.

"This book's goal is to define electronic SPAM and place its legal implications into context for the readers"--Provided by publisher.

Intimacy, expressed through the feelings and sensations of the researcher, is bound up in the work of a feminist geographer. Tapping into this intimacy and including it in academic writing facilitates a grasping of the effects of power in particular places and

initiates a discussion about how to access and tease out what constitutes the intimate both ethically and politically throughout the research process. This collection provides valuable reflections about intimacy in the research process - from encounters in the field, through data analysis, to the various pieces of written work. A global and heterogeneous pool of scholars and researchers introduce personal ways of writing intimacy into feminist geography. ? As authors expand existing conceptualizations of intimacy and include their own stories, chapters explore the methodological challenges of using intimacy in research as an approach, a topic and a site of interaction. The book is valuable reading for students and researchers of Geography, as well as anyone interested in the ethics and practicalities of feminist, critical and emotional research methodologies.

Push: Software Design and the Cultural Politics of Music Production shows how changes in the design of music software in the first decades of the twenty-first century shaped the production techniques and performance practices of artists working across media, from hip-hop and electronic dance music to video games and mobile apps. Emerging alongside developments in digital music distribution such as peer-to-peer file sharing and the MP3 format, digital audio workstations like FL Studio and Ableton Live introduced design affordances that encouraged rapid music creation workflows through flashy, user-friendly interfaces. Meanwhile, software such as Avid's Pro Tools attempted to protect its status as the industry standard, professional DAW of choice by incorporating design elements from pre-digital music technologies. Other software, like Cycling 74's Max, asserted its alterity to commercial DAWs by presenting users with nothing but a blank screen. These are more than just aesthetic design choices. Push examines the social, cultural, and political values designed into music software, and how those values become embodied by musical communities through production and performance. It reveals ties between the maximalist design of FL Studio, skeuomorphic design in Pro Tools, and gender inequity in the music products industry. It connects the computational thinking required by Max, as well as iZotope's innovations in artificial intelligence, with the cultural politics of Silicon Valley's design thinking. Finally, it thinks through what happens when software becomes hardware, and users externalize their screens through the use of MIDI controllers, mobile media, and video game controllers. Amidst the perpetual upgrade culture of music technology, Push provides a model for understanding software as a microcosm for the increasing convergence of globalization, neoliberal capitalism, and techno-utopianism that has come to define our digital lives.

An engineer's introduction to concepts, algorithms, and advancements in Digital Signal Processing. This lucidly written resource makes extensive use of real-world examples as it covers all the important design and engineering references.

Offers the first look at the aesthetics of contemporary design from the theoretical perspectives of media theory and 'software studies'.

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