

Next Generation Video Coding And Streaming

Right here, we have countless ebook **Next Generation Video Coding And Streaming** and collections to check out. We additionally manage to pay for variant types and as a consequence type of the books to browse. The pleasing book, fiction, history, novel, scientific research, as skillfully as various supplementary sorts of books are readily genial here.

As this Next Generation Video Coding And Streaming , it ends occurring mammal one of the favored book Next Generation Video Coding And Streaming collections that we have. This is why you remain in the best website to see the amazing ebook to have.

Greening Video Distribution Networks - Adrian Popescu
2018-01-29

This insightful text presents a guide to video distribution networks (VDNs), providing illuminating perspectives on reducing power consumption in IP-based video networks from an authoritative selection of experts in the field. A particular focus is provided on aspects of architectures, models, Internet protocol television (IPTV), over-the-top

(OTT) video content, video on demand (VoD) encoding and decoding, mobile terminals, wireless multimedia sensor networks (WMSNs), software defined networking (SDN), and techno-economic issues. Topics and features: reviews the fundamentals of video over IP distribution systems, and the trade-offs between network/service performance and energy efficiency in VDNs; describes the characterization of the main elements in a video

distribution chain, and techniques to decrease energy consumption in software-based VoD encoding; introduces an approach to reduce power consumption in mobile terminals during video playback, and in data center networks using the SDN paradigm; discusses the strengths and limitations of different methods for measuring the energy consumption of mobile devices; proposes optimization methods to improve the energy efficiency of WMSNs, and a routing algorithm that reduces energy consumption while maintaining the bandwidth; presents an economic analysis of the savings yielded by approaches to minimize energy consumption of IPTV and OTT video content services. The broad coverage and practical insights offered in this timely volume will be of great value to all researchers, practitioners and students involved with computer and telecommunication systems.

Versatile Video Coding -
Humberto Ochoa Dominguez

2022-09-01

Video is the main driver of bandwidth use, accounting for over 80 per cent of consumer Internet traffic. Video compression is a critical component of many of the available multimedia applications, it is necessary for storage or transmission of digital video over today's bandwidth-limited networks. The majority of this video is coded using international standards developed in collaboration with ITU-T Study Group and MPEG. The MPEG family of video coding standards begun on the early 1990s with MPEG-1, developed for video and audio storage on CD-ROMs, with support for progressive video. MPEG-2 was standardized in 1995 for applications of video on DVD, standard and high definition television, with support for interlaced and progressive video. MPEG-4 part 2, also known as MPEG-2 video, was standardized in 1999 for applications of low-bit rate multimedia on mobile platforms and the Internet, with the support of object-

based or content based coding by modeling the scene as background and foreground. Since MPEG-1, the main video coding standards were based on the so-called macroblocks. However, research groups continued the work beyond the traditional video coding architectures and found that macroblocks could limit the performance of the compression when using high-resolution video. Therefore, in 2013 the high efficiency video coding (HEVC) also known as H.265, was released, with a structure similar to H.264/AVC but using coding units with more flexible partitions than the traditional macroblocks. HEVC has greater flexibility in prediction modes and transform block sizes, also it has a more sophisticated interpolation and de blocking filters. In 2006 the VC-1 was released. VC-1 is a video codec implemented by Microsoft and the Microsoft Windows Media Video (VMW) 9 and standardized by the Society of Motion Picture and Television Engineers (SMPTE). In 2017

the Joint Video Experts Team (JVET) released a call for proposals for a new video coding standard initially called Beyond the HEVC, Future Video Coding (FVC) or known as Versatile Video Coding (VVC). VVC is being built on top of HEVC for application on Standard Dynamic Range (SDR), High Dynamic Range (HDR) and 360° Video. The VVC is planned to be finalized by 2020. This book presents the new VVC, and updates on the HEVC. The book discusses the advances in lossless coding and covers the topic of screen content coding. Technical topics discussed include: Beyond the High Efficiency Video Coding High Efficiency Video Coding encoder Screen content Lossless and visually lossless coding algorithms Fast coding algorithms Visual quality assessment Other screen content coding algorithms Overview of JPEG Series
Advances in Multimedia Information Processing - PCM 2005 - Yo-Sung Ho 2005-10-31
The two volume set LNCS 3767

and LNCS 3768 constitutes the refereed proceedings of the 6th Pacific Rim Conference on Multimedia, PCM 2005, held in Jeju Island, Korea in November 2005. The 181 revised papers presented were carefully reviewed and selected from a total of 570 submissions. The papers cover a wide range of topics, including all aspects of multimedia, both technical and artistic perspectives and both theoretical and practical issues. Besides papers that focus on traditional topics, such as multimedia communications, audio-visual compressions, multimedia security, image and signal processing techniques, and multimedia data processing, there are also artistic papers which need not to be strictly technical.

Multimedia Image and Video Processing - Ling Guan

2017-12-19

As multimedia applications have become part of contemporary daily life, numerous paradigm-shifting technologies in multimedia processing have emerged over

the last decade. Substantially updated with 21 new chapters, *Multimedia Image and Video Processing, Second Edition* explores the most recent advances in multimedia research and applications. This edition presents a comprehensive treatment of multimedia information mining, security, systems, coding, search, hardware, and communications as well as multimodal information fusion and interaction. Clearly divided into seven parts, the book begins with a section on standards, fundamental methods, design issues, and typical architectures. It then focuses on the coding of video and multimedia content before covering multimedia search, retrieval, and management. After examining multimedia security, the book describes multimedia communications and networking and explains the architecture design and implementation for multimedia image and video processing. It concludes with a section on multimedia systems and applications. Written by some

of the most prominent experts in the field, this updated edition provides readers with the latest research in multimedia processing and equips them with advanced techniques for the design of multimedia systems.

High Efficiency Video Coding and Other Emerging Standards

- K.R. Rao 2017-07-21

High Efficiency Video Coding and Other Emerging Standards provides an overview of high efficiency video coding (HEVC) and all its extensions and profiles. There are nearly 300 projects and problems included, and about 400 references related to HEVC alone. Next generation video coding (NGVC) beyond HEVC is also described. Other video coding standards such as AVS2, DAALA, THOR, VP9 (Google), DIRAC, VC1, and AV1 are addressed, and image coding standards such as JPEG, JPEG-LS, JPEG2000, JPEG XR, JPEG XS, JPEG XT and JPEG-Pleno are also listed.

Understanding of these standards and their implementation is facilitated by

overview papers, standards documents, reference software, software manuals, test sequences, source codes, tutorials, keynote speakers, panel discussions, reflector and ftp/web sites - all in the public domain. Access to these categories is also provided.

Information Networking

Advances in Data

Communications and Wireless

Networks - Ilyoung Chong

2006-11-07

This book constitutes the thoroughly refereed post-proceedings of the International Conference on Information Networking, ICOIN 2006 held in Sendai, Japan in January 2006. The 98 revised full papers presented were carefully selected and improved during two rounds of reviewing and revision from a total of 468 submissions.

Mobile Multimedia

Communications: Concepts, Applications, and Challenges -

Karmakar, Gour 2007-11-30

With rapid growth of the Internet, the applications of multimedia are burgeoning in every aspect of human life

including communication networks and wireless and mobile communications. *Mobile Multimedia Communications: Concepts, Applications and Challenges* captures defining research on all aspects and implications of the accelerated progress of mobile multimedia technologies. Covered topics include fundamental network infrastructures, modern communication features such as wireless and mobile multimedia protocols, personal communication systems, mobility and resource management, and security and privacy issues. A complete reference to topics driving current and potential future development of mobile technologies, this essential addition to library collections will meet the needs of researchers in a variety of related fields.

High Performance Vision Intelligence - Aparajita Nanda
2020-09-26

This book focuses on the challenges and the recent findings in vision intelligence incorporating high

performance computing applications. The contents provide in-depth discussions on a range of emerging multidisciplinary topics like computer vision, image processing, artificial intelligence, machine learning, cloud computing, IoT, and big data. The book also includes illustrations of algorithms, architecture, applications, software systems, and data analytics within the scope of the discussed topics. This book will help students, researchers, and technology professionals discover latest trends in the fields of computer vision and artificial intelligence.

Next-Generation Video Coding and Streaming - Benny Bing
2015-10-01

Reviews the new High Efficiency Video Coding (HEVC) standard and advancements in adaptive streaming technologies for use in broadband networks and the Internet This book describes next-generation video coding and streaming technologies with a comparative assessment of the strengths and

weaknesses. Specific emphasis is placed on the H.265/HEVC video coding standard and adaptive bit rate video streaming. In addition to evaluating the impact of different types of video content and powerful feature sets on HEVC coding efficiency, the text provides an in-depth study on the practical performance of popular adaptive streaming platforms and useful tips for streaming optimization. Readers will learn of new over-the-top (OTT) online TV advancements, the direction of the broadband telecommunications industry, and the latest developments that will help keep implementation costs down and maximize return on infrastructure investment. Reviews the emerging High Efficiency Video Coding (HEVC) standard and compares its coding performance with the MPEG-4 Advanced Video Coding (AVC) and MPEG-2 standards Provides invaluable insights into the intra and inter coding efficiencies of HEVC, such as the impact of

hierarchical block partitioning and new prediction modes Evaluates the performance of the Apple and Microsoft adaptive streaming platforms and presents innovative techniques related to aggregate stream bandwidth prediction, duplicate chunk Includes end-of-chapter homework problems and access to instructor slides Next-Generation Video Coding and Streaming is written for students, researchers, and industry professionals working in the field of video communications. Benny Bing has worked in academia for over 20 years. He has published over 80 research papers and 12 books, and has 6 video patents licensed to industry. He has served as a technical editor for several IEEE journals and an IEEE Communications Society Distinguished lecturer. He also received the National Association of Broadcasters (NAB) Technology Innovation Award for demonstrations of advanced media technologies.

Next-Generation Video

Coding and Streaming -

Benny Bing 2015-10-05

Reviews the new High Efficiency Video Coding (HEVC) standard and advancements in adaptive streaming technologies for use in broadband networks and the Internet. This book describes next-generation video coding and streaming technologies with a comparative assessment of the strengths and weaknesses. Specific emphasis is placed on the H.265/HEVC video coding standard and adaptive bit rate video streaming. In addition to evaluating the impact of different types of video content and powerful feature sets on HEVC coding efficiency, the text provides an in-depth study on the practical performance of popular adaptive streaming platforms and useful tips for streaming optimization. Readers will learn of new over-the-top (OTT) online TV advancements, the direction of the broadband telecommunications industry, and the latest developments that will help keep

implementation costs down and maximize return on infrastructure investment. Reviews the emerging High Efficiency Video Coding (HEVC) standard and compares its coding performance with the MPEG-4 Advanced Video Coding (AVC) and MPEG-2 standards. Provides invaluable insights into the intra and inter coding efficiencies of HEVC, such as the impact of hierarchical block partitioning and new prediction modes. Evaluates the performance of the Apple and Microsoft adaptive streaming platforms and presents innovative techniques related to aggregate stream bandwidth prediction, duplicate chunk. Includes end-of-chapter homework problems and access to instructor slides. Next-Generation Video Coding and Streaming is written for students, researchers, and industry professionals working in the field of video communications. Benny Bing has worked in academia for over 20 years. He has published over 80 research

papers and 12 books, and has 6 video patents licensed to industry. He has served as a technical editor for several IEEE journals and an IEEE Communications Society Distinguished lecturer. He also received the National Association of Broadcasters (NAB) Technology Innovation Award for demonstrations of advanced media technologies. *Connected Media in the Future Internet Era* - Ahmet Kondozi
2016-10-08

This book describes recent innovations in 3D media and technologies, with coverage of 3D media capturing, processing, encoding, and adaptation, networking aspects for 3D Media, and quality of user experience (QoE). The contributions are based on the results of the FP7 European Project ROMEO, which focuses on new methods for the compression and delivery of 3D multi-view video and spatial audio, as well as the optimization of networking and compression jointly across the future Internet. The delivery of 3D media to individual users

remains a highly challenging problem due to the large amount of data involved, diverse network characteristics and user terminal requirements, as well as the user's context such as their preferences and location. As the number of visual views increases, current systems will struggle to meet the demanding requirements in terms of delivery of consistent video quality to fixed and mobile users. ROMEO will present hybrid networking solutions that combine the DVB-T2 and DVB-NGH broadcast access network technologies together with a QoE aware Peer-to-Peer (P2P) distribution system that operates over wired and wireless links. Live streaming 3D media needs to be received by collaborating users at the same time or with imperceptible delay to enable them to watch together while exchanging comments as if they were all in the same location. This book is the last of a series of three annual volumes devoted to the latest

results of the FP7 European Project ROMEO. The present volume provides state-of-the-art information on 3D multi-view video, spatial audio networking protocols for 3D media, P2P 3D media streaming, and 3D Media delivery across heterogeneous wireless networks among other topics. Graduate students and professionals in electrical engineering and computer science with an interest in 3D Future Internet Media will find this volume to be essential reading.

Information Computing and Automation -

Resource Allocation in Next-Generation Broadband

Wireless Access Networks - Singhal, Chetna 2017-02-14

With the growing popularity of wireless networks in recent years, the need to increase network capacity and efficiency has become more prominent in society. This has led to the development and implementation of heterogeneous networks.

Resource Allocation in Next-

Generation Broadband Wireless Access Networks is a comprehensive reference source for the latest scholarly research on upcoming 5G technologies for next generation mobile networks, examining the various features, solutions, and challenges associated with such advances. Highlighting relevant coverage across topics such as energy efficiency, user support, and adaptive multimedia services, this book is ideally designed for academics, professionals, graduate students, and professionals interested in novel research for wireless innovations.

National Association of Broadcasters Engineering Handbook - Garrison C. Cavell 2017-07-28

The NAB Engineering Handbook is the definitive resource for broadcast engineers. It provides in-depth information about each aspect of the broadcast chain from audio and video contribution through an entire broadcast facility all the way to the antenna. New topics include

Ultra High Definition Television, Internet Radio Interfacing and Streaming, ATSC 3.0, Digital Audio Compression Techniques, Digital Television Audio Loudness Management, and Video Format and Standards Conversion. Important updates have been made to incumbent topics such as AM, Shortwave, FM and Television Transmitting Systems, Studio Lighting, Cameras, and Principles of Acoustics. The big-picture, comprehensive nature of the NAB Engineering Handbook will appeal to all broadcast engineers—everyone from broadcast chief engineers, who need expanded knowledge of all the specialized areas they encounter in the field, to technologists in specialized fields like IT and RF who are interested in learning about unfamiliar topics. Chapters are written to be accessible and easy to understand by all levels of engineers and technicians. A wide range of related topics that engineers and technical managers need to understand

are covered, including broadcast documentation, FCC practices, technical standards, security, safety, disaster planning, facility planning, project management, and engineering management. Resource Management of Mobile Cloud Computing Networks and Environments - Mastorakis, George 2015-03-31 As more and more of our data is stored remotely, accessing that data wherever and whenever it is needed is a critical concern. More concerning is managing the databanks and storage space necessary to enable cloud systems. Resource Management of Mobile Cloud Computing Networks and Environments reports on the latest advances in the development of computationally intensive and cloud-based applications. Covering a wide range of problems, solutions, and perspectives, this book is a scholarly resource for specialists and end-users alike making use of the latest cloud technologies.

Multimedia Technologies: Concepts, Methodologies, Tools, and Applications - Syed, Mahbubur Rahman 2008-06-30
"This book offers an in-depth explanation of multimedia technologies within their many specific application areas as well as presenting developing trends for the future"--Provided by publisher.

Web-Based Services: Concepts, Methodologies, Tools, and Applications - Management Association, Information Resources 2015-11-09

The recent explosion of digital media, online networking, and e-commerce has generated great new opportunities for those Internet-savvy individuals who see potential in new technologies and can turn those possibilities into reality. It is vital for such forward-thinking innovators to stay abreast of all the latest technologies. *Web-Based Services: Concepts, Methodologies, Tools, and Applications* provides readers with comprehensive coverage of some of the latest tools and

technologies in the digital industry. The chapters in this multi-volume book describe a diverse range of applications and methodologies made possible in a world connected by the global network, providing researchers, computer scientists, web developers, and digital experts with the latest knowledge and developments in Internet technologies.

The Media Workflow Puzzle - Clyde Smith 2021-03-18

This edited collection brings together a team of top industry experts to provide a comprehensive look at the entire media workflow from start to finish. *The Media Workflow Puzzle* gives readers an in-depth overview of the workflow process, from production to distribution to archiving. Pulling from the expertise of twenty contributing authors and editors, the book covers topics including content production, postproduction systems, media asset management, content distribution, and archiving and preservation, offering the

reader an understanding of all the various elements and processes that go into the media workflow ecosystem. It concludes with an exploration of the possibilities for the future of media workflows and the new opportunities it may bring. Professionals and students alike looking to understand how to manage media content for its entire lifecycle will find this an invaluable resource.

Web Services: Concepts, Methodologies, Tools, and Applications - Management

Association, Information Resources 2018-12-07

Web service technologies are redefining the way that large and small companies are doing business and exchanging information. Due to the critical need for furthering automation, engagement, and efficiency, systems and workflows are becoming increasingly more web-based. **Web Services: Concepts, Methodologies, Tools, and Applications** is an innovative reference source that examines relevant theoretical frameworks,

current practice guidelines, industry standards and standardization, and the latest empirical research findings in web services. Highlighting a range of topics such as cloud computing, quality of service, and semantic web, this multi-volume book is designed for computer engineers, IT specialists, software designers, professionals, researchers, and upper-level students interested in web services architecture, frameworks, and security.

National Association of Broadcasters Engineering Handbook - Graham A. Jones 2013-04-26

The NAB Engineering Handbook provides detailed information on virtually every aspect of the broadcast chain, from news gathering, program production and postproduction through master control and distribution links to transmission, antennas, RF propagation, cable and satellite. Hot topics covered include HD Radio, HDTV, 2 GHz broadcast auxiliary services, EAS, workflow, metadata, digital asset

management, advanced video and audio compression, audio and video over IP, and Internet broadcasting. A wide range of related topics that engineers and managers need to understand are also covered, including broadcast administration, FCC practices, technical standards, security, safety, disaster planning, facility planning, project management, and engineering management. Basic principles and the latest technologies and issues are all addressed by respected professionals with first-hand experience in the broadcast industry and manufacturing. This edition has been fully revised and updated, with 104 chapters and over 2000 pages. The Engineering Handbook provides the single most comprehensive and accessible resource available for engineers and others working in production, postproduction, networks, local stations, equipment manufacturing or any of the associated areas of radio and television.

Multimedia Networking and

Coding - Farrugia, Reuben A.
2012-12-31

Advances in multimedia communication systems have enhanced the need for improved video coding standards. Due to the inherent nature of video content, large bandwidths and reliable communication links are required to ensure a satisfactory level of quality experience; inspiring industry and research communities to concentrate their efforts in this emerging research area.

Multimedia Networking and Coding covers widespread knowledge and research as well as innovative applications in multimedia communication systems. This book highlights recent techniques that can evolve into future multimedia communication systems, also showing experimental results from systems and applications.

Video Codec Design - Iain E. Richardson
2002-05-22

Video compression coding is the enabling technology behind a new wave of communication applications. From streaming internet video to broadcast

digital television and digital cinema, the video codec is a key building block for a host of new multimedia applications and services. Video Codec Design sets out to de-mystify the subject of video coding and present a practical, design-based approach to this emerging field. Featuring: * Guidance on the practical design and implementation of video coding technology. * Explanation of the major video coding standards, including MPEG-2, MPEG-4, H.263 and H.26L. * Detailed coverage of key video coding techniques and core algorithms. * Examination of critical design issues including transmission, Quality of Service and processing platforms. * A wealth of illustrations and practical examples, including quantitative comparisons of design alternatives. Video Codec Design provides communications engineers, system designers, researchers and technical managers with an essential handbook to image and video compression technology. The clear

presentation and emphasis on real-life examples make this book an excellent teaching tool for computer science and electronic engineering instructors.

The H.264 Advanced Video Compression Standard - Iain E. Richardson 2011-08-24
H.264 Advanced Video Coding or MPEG-4 Part 10 is fundamental to a growing range of markets such as high definition broadcasting, internet video sharing, mobile video and digital surveillance. This book reflects the growing importance and implementation of H.264 video technology. Offering a detailed overview of the system, it explains the syntax, tools and features of H.264 and equips readers with practical advice on how to get the most out of the standard. Packed with clear examples and illustrations to explain H.264 technology in an accessible and practical way. Covers basic video coding concepts, video formats and visual quality. Explains how to measure and optimise the performance of H.264 and how

to balance bitrate, computation and video quality. Analyses recent work on scalable and multi-view versions of H.264, case studies of H.264 codecs and new technological developments such as the popular High Profile extensions. An invaluable companion for developers, broadcasters, system integrators, academics and students who want to master this burgeoning state-of-the-art technology. "[This book] unravels the mysteries behind the latest H.264 standard and delves deeper into each of the operations in the codec. The reader can implement (simulate, design, evaluate, optimize) the codec with all profiles and levels. The book ends with extensions and directions (such as SVC and MVC) for further research." Professor K. R. Rao, The University of Texas at Arlington, co-inventor of the Discrete Cosine Transform Digital TV and Wireless Multimedia Communication - Xiaokang Yang 2017-03-11 This book constitutes the

refereed proceedings of the 13th International Forum of Digital TV and Wireless Multimedia Communication, IFTC 2016, held in Shanghai, China, in November 2016. The 38 revised full papers presented were carefully reviewed and selected from 102 submissions. The papers are organized in topical sections on image processing; audio processing; image and video compression; telecommunications.

Next Generation Content Delivery Infrastructures: Emerging Paradigms and Technologies - Fortino, Giancarlo 2012-06-30

"This book delivers state-of-the-art research on current and future Internet-based content delivery networking topics, bringing to the forefront novel problems that demand investigation"--

H.264 and MPEG-4 Video Compression - Iain E. Richardson 2004-02-06

Following on from the successful MPEG-2 standard, MPEG-4 Visual is enabling a new wave of multimedia

applications from Internet video streaming to mobile video conferencing. The new H.264 'Advanced Video Coding' standard promises impressive compression performance and is gaining support from developers and manufacturers. The first book to cover H.264 in technical detail, this unique resource takes an application-based approach to the two standards and the coding concepts that underpin them. Presents a practical, step-by-step, guide to the MPEG-4 Visual and H.264 standards for video compression. Introduces the basic concepts of digital video and covers essential background material required for an understanding of both standards. Provides side-by-side performance comparisons of MPEG-4 Visual and H.264 and advice on how to approach and interpret them to ensure conformance. Examines the way that the standards have been shaped and developed, discussing the composition and procedures of the VCEG and MPEG standardisation groups. Focussing on compression tools

and profiles for practical multimedia applications, this book 'decodes' the standards, enabling developers, researchers, engineers and students to rapidly get to grips with both H.264 and MPEG-4 Visual. Dr Iain Richardson leads the Image Communication Technology research group at the Robert Gordon University in Scotland and is the author of over 40 research papers and two previous books on video compression technology.

Advances in Next Generation Services and Service Architectures -

Anand R. Prasad 2011

The book is intended to provide readers with a comprehensive reference for the most current developments in the field. It offers broad coverage of important topics with eighteen chapters covering both technology and applications written by international experts.

3D Television (3DTV)

Technology, Systems, and

Deployment - Daniel Minoli

2010-11-17

Going beyond the technological building blocks of 3DTV, 3D Television (3DTV) Technology, Systems, and Deployment: Rolling Out the Infrastructure for Next-Generation Entertainment offers an early view of the deployment and rollout strategies of this emerging technology. It covers cutting-edge advances, theories, and techniques in end-to-end 3DTV systems
Video coding standards - K.R. Rao 2013-10-07

The requirements for multimedia (especially video and audio) communications increase rapidly in the last two decades in broad areas such as television, entertainment, interactive services, telecommunications, conference, medicine, security, business, traffic, defense and banking. Video and audio coding standards play most important roles in multimedia communications. In order to meet these requirements, series of video and audio coding standards have been developed such as MPEG-2, MPEG-4, MPEG-21 for audio

and video by ISO/IEC, H.26x for video and G.72x for audio by ITU-T, Video Coder 1 (VC-1) for video by the Society of Motion Picture and Television Engineers (SMPTE) and RealVideo (RV) 9 for video by Real Networks. AVS China is the abbreviation for Audio Video Coding Standard of China. This new standard includes four main technical areas, which are systems, video, audio and digital copyright management (DRM), and some supporting documents such as consistency verification. The second part of the standard known as AVS1-P2 (Video - Jizhun) was approved as the national standard of China in 2006, and several final drafts of the standard have been completed, including AVS1-P1 (System - Broadcast), AVS1-P2 (Video - Zengqiang), AVS1-P3 (Audio - Double track), AVS1-P3 (Audio - 5.1), AVS1-P7 (Mobile Video), AVS-S-P2 (Video) and AVS-S-P3 (Audio). AVS China provides a technical solution for many applications such as digital broadcasting (SDTV and

HDTV), high-density storage media, Internet streaming media, and will be used in the domestic IPTV, satellite and possibly the cable TV market. Comparing with other coding standards such as H.264 AVC, the advantages of AVS video standard include similar performance, lower complexity, lower implementation cost and licensing fees. This standard has attracted great deal of attention from industries related to television, multimedia communications and even chip manufacturing from around the world. Also many well known companies have joined the AVS Group to be Full Members or Observing Members. The 163 members of AVS Group include Texas Instruments (TI) Co., Agilent Technologies Co. Ltd., Envivio Inc., NDS, Philips Research East Asia, Aisino Corporation, LG, Alcatel Shanghai Bell Co. Ltd., Nokia (China) Investment (NCIC) Co. Ltd., Sony (China) Ltd., and Toshiba (China) Co. Ltd. as well as some high level universities in China. Thus there is a pressing need from

the instructors, students, and engineers for a book dealing with the topic of AVS China and its performance comparisons with similar standards such as H.264, VC-1 and RV-9.

Digital Arts and Entertainment: Concepts, Methodologies, Tools, and Applications - Management Association, Information Resources 2014-06-30

In today's interconnected society, media, including news, entertainment, and social networking, has increasingly shifted to an online, ubiquitous format. Artists and audiences will achieve the greatest successes by utilizing these new digital tools. *Digital Arts and Entertainment: Concepts, Methodologies, Tools, and Applications* examines the latest research and findings in electronic media, evaluating the staying power of this increasingly popular paradigm along with best practices for those engaged in the field. With chapters on topics ranging from an introduction to online entertainment to the

latest advances in digital media, this impressive three-volume reference source will be important to researchers, practitioners, developers, and students of the digital arts.

Robust Wavelet Video Coding and Video Streaming Over IEEE802.11a/e Wireless Local Area Networks - Zhiping Hu 2005

Immersive Video Technologies
- Giuseppe Valenzise
2022-09-29

Get a broad overview of the different modalities of immersive video technologies—from omnidirectional video to light fields and volumetric video—from a multimedia processing perspective. From capture to representation, coding, and display, video technologies have been evolving significantly and in many different directions over the last few decades, with the ultimate goal of providing a truly immersive experience to users. After setting up a common background for these technologies, based on the

plenoptic function theoretical concept, Immersive Video Technologies offers a comprehensive overview of the leading technologies enabling visual immersion, including omnidirectional (360 degrees) video, light fields, and volumetric video. Following the critical components of the typical content production and delivery pipeline, the book presents acquisition, representation, coding, rendering, and quality assessment approaches for each immersive video modality. The text also reviews current standardization efforts and explores new research directions. With this book the reader will a) gain a broad understanding of immersive video technologies that use three different modalities: omnidirectional video, light fields, and volumetric video; b) learn about the most recent scientific results in the field, including the recent learning-based methodologies; and c) understand the challenges and perspectives for immersive video technologies. Describes

the whole content processing chain for the main immersive video modalities

(omnidirectional video, light fields, and volumetric video)

Offers a common theoretical background for immersive video technologies based on the concept of plenoptic function Presents some exemplary applications of immersive video technologies

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.

Enabling 5G Communication Systems to Support Vertical Industries - Muhammad Ali Imran 2019-06-19

How 5G technology can support the demands of multiple vertical industries

Recent advances in technology have created new vertical industries that are highly dependent on the availability and reliability of data between multiple locations. The 5G system, unlike previous generations, will be entirely data driven—addressing latency, resilience, connection density, coverage area, and other vertical industry criteria.

Enabling 5G Communication Systems to Support Vertical Industries demonstrates how 5G communication systems can

meet the needs unique to vertical industries for efficient, cost-effective delivery of service. Covering both theory and practice, this book explores solutions to problems in specific industrial sectors including smart transportation, smart agriculture, smart grid, environmental monitoring, and disaster management. The 5G communication system will have to provide customized solutions to accommodate each vertical industry's specific requirements. Whether an industry practitioner designing the next generation of wireless communications or a researcher needing to identify open issues and classify their research, this timely book: Covers the much-discussed topics of supporting multiple vertical industries and new ICT challenges Addresses emerging issues and real-world problems surrounding 5G technology in wireless communication and networking Explores a comprehensive array of essential topics such as connected health, smart transport, smart

manufacturing, and more
Presents important topics in a clear, concise style suitable for new learners and professionals alike Includes contributions from experts and industry leaders, system diagrams, charts, tables, and examples
Enabling 5G Communication Systems to Support Vertical Industries is a valuable resource telecom engineers industry professionals, researchers, professors, doctorate, and postgraduate students requiring up-to-date information on supporting vertical industries with 5G technology systems.

Next Generation Mobile Networks and Ubiquitous Computing - Pierre, Samuel
2010-08-31

"This book provides a comprehensive and unified view of the latest and most innovative research findings on the many existing interactions between mobile networking, wireless communications, and ubiquitous computing"--
Provided by publisher.

User-Centric and Information-Centric Networking and

Services - M. Bala Krishna
2019-04-29

User-Centric Networks (UCN) and Information-Centric Networks (ICN) are new communication paradigms to increase the efficiency of content delivery and also content availability. In this new concept, the network infrastructure actively contributes to content caching and distribution. This book presents the basic concepts of UCN and ICN, describes the main architecture proposals for these networks, and discusses the main challenges to their development. The book also looks at the current challenges for this concept, including naming, routing and caching on the network-core elements, several aspects of content security, user privacy, and practical issues in implementing UCN and ICN.
Academic Press Library in Signal Processing - 2014-06-12
This fifth volume, edited and authored by world leading experts, gives a review of the principles, methods and techniques of important and

emerging research topics and technologies in image and video compression and multimedia. With this reference source you will: Quickly grasp a new area of research Understand the underlying principles of a topic and its application Ascertain how a topic relates to other areas and learn of the research issues yet to be resolved Quick tutorial reviews of important and emerging topics of research in Image and Video Compression and Multimedia

Comprehensive references to journal articles and other literature on which to build further, more specific and detailed knowledge Edited by leading people in the field who, through their reputation, have been able to commission experts to write on a particular topic

Mobile Computing: Concepts, Methodologies, Tools, and Applications -

Taniar, David 2008-11-30 "This multiple-volume publication advances the emergent field of mobile computing offering research on

approaches, observations and models pertaining to mobile devices and wireless communications from over 400 leading researchers"--Provided by publisher.

M-Health - Robert Istepanian 2007-01-04

M-health can be defined as the 'emerging mobile communications and network technologies for healthcare systems.' This book paves the path toward understanding the future of m-health technologies and services and also introducing the impact of mobility on existing e-health and commercial telemedical systems. *M-Health: Emerging Mobile Health Systems* presents a new and forward-looking source of information that explores the present and future trends in the applications of current and emerging wireless communication and network technologies for different healthcare scenarios. It also provides a discovery path on the synergies between the 2.5G and 3G systems and other relevant computing and

information technologies and how they prescribe the way for the next generation of m-health services. The book contains 47 chapters, arranged in five thematic sections: Introduction to Mobile M-health Systems, Smart Mobile Applications for Health Professionals, Signal, Image, and Video Compression for M-health Applications, Emergency Health Care Systems and Services, Echography Systems and Services, and Remote and Home Monitoring. This book is intended for all those working in the field of information technologies in biomedicine, as well as for people working in future applications of wireless communications and wireless telemedical systems. It provides different levels of material to researchers, computing engineers, and medical practitioners interested in emerging e-health systems. This book will be a useful reference for all the readers in this important and growing field of research, and will contribute to the roadmap of future m-health systems and

improve the development of effective healthcare delivery systems.

Next-Generation Wireless Networks Meet Advanced Machine Learning Applications

- Com?a, Ioan-Sorin 2019-01-25

The ever-evolving wireless technology industry is demanding new technologies and standards to ensure a higher quality of experience for global end-users. This developing challenge has enabled researchers to identify the present trend of machine learning as a possible solution, but will it meet business velocity demand? *Next-Generation Wireless Networks Meet Advanced Machine Learning Applications* is a pivotal reference source that provides emerging trends and insights into various technologies of next-generation wireless networks to enable the dynamic optimization of system configuration and applications within the fields of wireless networks, broadband networks, and wireless communication. Featuring coverage on a broad range of topics such as

machine learning, hybrid network environments, wireless communications, and the internet of things; this publication is ideally designed for industry experts,

researchers, students, academicians, and practitioners seeking current research on various technologies of next-generation wireless networks.