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Handbook of Image and Video Processing - Alan C. Bovik 2010-07-21

55% new material in the latest edition of this “must-have for students and practitioners of image & video processing! This Handbook is intended to serve as the basic reference point on image and video processing, in the field, in the research laboratory, and in the classroom. Each chapter has been written by carefully selected, distinguished experts specializing in that topic and carefully reviewed by the Editor, Al Bovik, ensuring that the greatest depth of understanding be communicated to the reader. Coverage includes introductory, intermediate and advanced topics and as such, this book serves equally well as classroom textbook as reference resource. • Provides practicing engineers and students with a highly accessible resource for learning and using image/video processing theory and algorithms • Includes a new chapter on image processing education, which should prove invaluable for those developing or modifying their curricula • Covers the various image and video processing standards that exist and are emerging, driving today’s explosive industry • Offers an understanding of what images are, how they are modeled, and gives an introduction to how they are perceived • Introduces the necessary, practical background to allow engineering students to acquire and process their own digital image or video data • Culminates with a diverse set of applications chapters, covered in sufficient depth to serve as extensible models to the reader’s own potential applications About the Editor... Al

Bovik is the Cullen Trust for Higher Education Endowed Professor at The University of Texas at Austin, where he is the Director of the Laboratory for Image and Video Engineering (LIVE). He has published over 400 technical articles in the general area of image and video processing and holds two U.S. patents. Dr. Bovik was Distinguished Lecturer of the IEEE Signal Processing Society (2000), received the IEEE Signal Processing Society Meritorious Service Award (1998), the IEEE Third Millennium Medal (2000), and twice was a two-time Honorable Mention winner of the international Pattern Recognition Society Award. He is a Fellow of the IEEE, was Editor-in-Chief, of the IEEE Transactions on Image Processing (1996-2002), has served on and continues to serve on many other professional boards and panels, and was the Founding General Chairman of the IEEE International Conference on Image Processing which was held in Austin, Texas in 1994. * No other resource for image and video processing contains the same breadth of up-to-date coverage * Each chapter written by one or several of the top experts working in that area * Includes all essential mathematics, techniques, and algorithms for every type of image and video processing used by electrical engineers, computer scientists, internet developers, bioengineers, and scientists in various, image-intensive disciplines

Emerging Technologies for 3D Video - Frederic Dufaux 2013-04-22

With the expectation of greatly enhanced user experience, 3D video is widely perceived as the next major advancement in video technology. In order to fulfil the expectation of enhanced user experience, 3D video calls for new technologies addressing efficient content creation, representation/coding, transmission and display. Emerging Technologies for 3D Video will deal with all aspects involved in 3D video systems and services, including content acquisition and creation, data representation and coding, transmission, view synthesis, rendering, display technologies, human perception of depth and quality assessment. Key features: Offers an overview of key existing technologies for 3D video Provides a discussion of advanced research topics and future technologies Reviews relevant standardization efforts Addresses applications and implementation issues Includes contributions from leading researchers The book is a comprehensive guide to 3D video systems and services suitable for all those involved in this field, including engineers, practitioners, researchers as well as professors, graduate and undergraduate students, and managers making technological decisions about 3D video.

Bibliographic Index - 1995

Real Time Cameras - Mark Haigh-Hutchinson 2009-04-02

The control of cameras is as important in games as it is in cinema. How

the camera tracks and moves determines our point of view and influences our attitude towards the content. A poorly designed camera system in a game can disrupt a users experience, while a well-designed one can make a good game into a great one. The challenge in games is that th

The Engineering of Sport 6 - Eckehard Moritz 2010-04-26

This proceedings volume of the ISEA 2006 examines sports engineering, an interdisciplinary subject which encompasses and integrates not only sports science and engineering but also biomechanics, physiology and anatomy, and motion physics. This is the first title of its kind in the emerging field of sports technology.

Proceedings of International Conference on Frontiers in Computing and Systems - Debotosh Bhattacharjee 2020-11-23

This book gathers outstanding research papers presented at the International Conference on Frontiers in Computing and Systems (COMSYS 2020), held on January 13–15, 2019 at Jalpaiguri Government Engineering College, West Bengal, India and jointly organized by the Department of Computer Science & Engineering and Department of Electronics & Communication Engineering. The book presents the latest research and results in various fields of machine learning, computational intelligence, VLSI, networks and systems, computational biology, and security, making it a rich source of reference material for academia and industry alike.

Multimedia Storage and Archiving Systems - 1997

Intelligent Communication Technologies and Virtual Mobile Networks - S. Balaji 2019-08-12

This book presents the outcomes of the Intelligent Communication Technologies and Virtual Mobile Networks Conference (ICICV 2019) held in Tirunelveli, India, on February 14–15, 2019. It presents the state of the art in the field, identifying emerging research topics and communication technologies and defining the future of intelligent communication approaches and virtual computing. In light of the tremendous growth ICT, it examines the rapid developments in virtual reality in communication technology and high-quality services in mobile networks, including the integration of virtual mobile computing and communication technologies, which permits new technologies based on the resources and services of computational intelligence, big data analytics, Internet of Things (IoT), 5G technology, automation systems, sensor networks, augmented reality, data mining, and vehicular ad hoc networks with massive cloud-based backend. These services have a significant impact on all areas of daily life, like transportation, e-commerce, health care, secure communication, location detection, smart home, smart city, social networks and many more.

Digital Watermarking - Hyoung Joong Kim 2011-01-14

This book constitutes the thoroughly refereed post-conference proceedings of the 9th Interntaional Workshop on Digital Watermarking, IWDW 2010, held in Seoul, Korea, in October 2010. The 26 revised full papers presented were carefully reviewed and selected from 48 submissions. The papers are organized in topical sections on forensics, visual cryptography, robust watermarking, steganography, fingerprinting, and steganalysis.

[illegible] - 2005

Proceedings of International Conference on Advances in Computing - Aswatha Kumar M. 2012-09-03

This is the first International Conference on Advances in Computing (ICAdC-2012). The scope of the conference includes all the areas of New Theoretical Computer Science, Systems and Software, and Intelligent systems. Conference Proceedings is a culmination of research results, papers and the theory related to all the three major areas of computing mentioned above. Helps budding researchers, graduates in the areas of Computer Science, Information Science, Electronics, Telecommunication, Instrumentation, Networking to take forward their research work based on the reviewed results in the paper by mutual interaction through e-mail contacts in the proceedings.

Fundamentals of IoT and Wearable Technology Design - Haider Raad 2021-01-20

Explore this indispensable guide covering the fundamentals of IOT and wearable devices from a leading voice in the field Fundamentals of IoT and Wearable Technology Design delivers a comprehensive exploration of the foundations of the Internet of Things (IoT) and wearable technology. Throughout the textbook, the focus is on IoT and wearable technology and their applications, including mobile health, environment, home automation, and smart living. Readers will learn about the most recent developments in the design and prototyping of these devices. This interdisciplinary work combines technical concepts from electrical, mechanical, biomedical, computer, and industrial engineering, all of which are used in the design and manufacture of IoT and wearable devices. Fundamentals of IoT and Wearable Technology Design thoroughly investigates the foundational characteristics, architectural aspects, and practical considerations, while offering readers detailed and systematic design and prototyping processes of typical use cases representing IoT and wearable technology. Later chapters discuss crucial issues, including PCB design, cloud and edge topologies, privacy and health concerns, and regulatory policies. Readers will also benefit from the inclusion of: A thorough introduction to the applications of IoT and wearable technology, including biomedicine and

healthcare, fitness and wellbeing, sports, home automation, and more Discussions of wearable components and technologies, including microcontrollers and microprocessors, sensors, actuators and communication modules An exploration of the characteristics and basics of the communication protocols and technologies used in IoT and wearable devices An overview of the most important security challenges, threats, attacks and vulnerabilities faced by IoT and wearable devices along with potential solutions Perfect for research and development scientists working in the wearable technology and Internet of Things spaces, Fundamentals of IoT and Wearable Technology Design will also earn a place in the libraries of undergraduate and graduate students studying wearable technology and IoT, as well as professors and practicing technologists in the area.

The Digital Transformation of Logistics - Mac Sullivan 2021-03-30

The digital transformation is in full swing and fundamentally changes how we live, work, and communicate with each other. From retail to finance, many industries see an inflow of new technologies, disruption through innovative platform business models, and employees struggling to cope with the significant shifts occurring. This Fourth Industrial Revolution is predicted to also transform Logistics and Supply Chain Management, with delivery systems becoming automated, smart networks created everywhere, and data being collected and analyzed universally. The Digital Transformation of Logistics: Demystifying Impacts of the Fourth Industrial Revolution provides a holistic overview of this vital subject clouded by buzz, hype, and misinformation. The book is divided into three themed-sections: Technologies such as self-driving cars or virtual reality are not only electrifying science fiction lovers anymore, but are also increasingly presented as cure-all remedies to supply chain challenges. In The Digital Transformation of Logistics: Demystifying Impacts of the Fourth Industrial Revolution, the authors peel back the layers of excitement that have grown around new technologies such as the Internet of Things (IoT), 3D printing, Robotic Process Automation (RPA), Blockchain or Cloud computing, and show use cases that give a glimpse about the fascinating future we can expect. Platforms that allow businesses to centrally acquire and manage their logistics services disrupt an industry that has been relationship-based for centuries. The authors discuss smart contracts, which are one of the most exciting applications of Blockchain, Software as a Service (SaaS) offerings for freight procurement, where numerous data sources can be integrated and decision-making processes automated, and marine terminal operating systems as an integral node for shipments. In The Digital Transformation of Logistics: Demystifying Impacts of the Fourth Industrial Revolution, insights are shared into the cold chain industry where

companies respond to increasing quality demands, and how European governments are innovatively responding to challenges of cross-border eCommerce. People are a vital element of the digital transformation and must be on board to drive change. The Digital Transformation of Logistics: Demystifying Impacts of the Fourth Industrial Revolution explains how executives can create sustainable impact and how competencies can be managed in the digital age - especially for sales executives who require urgent upskilling to remain relevant. Best practices are shared for organizational culture change, drawing on studies among senior leaders from the US, Singapore, Thailand, and Australia, and for managing strategic alliances with logistics service providers to offset risks and create cross-functional, cross-company transparency. The Digital Transformation of Logistics: Demystifying Impacts of the Fourth Industrial Revolution provides realistic insights, a ready-to-use knowledge base, and a working vocabulary about current activities and emerging trends of the Logistics industry. Intended readers are supply chain professionals working for manufacturing, trading, and freight forwarding companies as well as students and all interested parties.

Video Coding for Mobile Communications - Mohammed Al-Mualla 2002-05-13

In order for wireless devices to function, the signals must be coded in standard ways so that the sender and the receiver can communicate. This area of video source coding is one of the key challenges in the worldwide push to deliver full video communications over wireless devices. Video Coding for Mobile Communications reviews current progress in this field and looks at how to solve some of the most important technology issues in the months and years ahead. The vision of being able to communicate from anywhere, at any time, and with any type of information is on its way to becoming reality. This natural convergence of mobile communications and multimedia is a field that is expected to achieve unprecedented growth and commercial success. Current wireless communication devices support a number of basic multimedia services (voice, messages, basic internet access), but have coding problems that need to be solved before "real-time" mobile video communication can be achieved. Addresses the emerging field of mobile multimedia communications

Mathematical Reviews - 2004

Signal Processing, Sensor Fusion, and Target Recognition - 1996

Proceedings - 2004

Medical Imaging - 1998

Optical Engineering - 1993

Publishes papers reporting on research and development in optical science and engineering and the practical applications of known optical science, engineering, and technology.

Advances in Intelligent Systems - S.G. Tzafestas 2013-12-01

Intelligent Systems involve a large class of systems which posses human-like capabilities such as learning, observation, perception, interpretation, reasoning under uncertainty, planning in known and unknown environments, decision making, and control action. The field of intelligent systems is actually a new interdisciplinary field which is the outcome of the interaction, cooperation and synergetic merging of classical fields such as system theory, control theory, artificial intelligence, information theory, operational research, soft computing, communications, linguistic theory, and others. Integrated intelligent decision and control systems involve three primary hierarchical levels, namely organization, coordination and execution levels. As we proceed from the be performed organization to the execution level, the precision about the jobs to increases and accordingly the intelligence required for these jobs decreases. This is in compliance with the principle of increasing precision with decreasing intelligence (IPOI) known from the management field and theoretically established by Saridis using information theory concepts. This book is concerned with intelligent systems and techniques and gives emphasis on the computational and processing issues. Control issues are not included here. The contributions of the book are presented in four parts as follows.

Multimedia Communications - Jerry D. Gibson 2000-10-31

The rapid advances and industry demands for networked delivery of information and pictures through computer networks and cable television has created a need for new techniques and standards for the packaging and delivery of digital information. Multimedia Communications presents the latest information from industry and academic experts on all standards, methods and protocols. Internet protocols for wireless communications, transcoding of Internet multimedia for universal access, ATM and ISDN chapters, videoconferencing standards, speech and audio coding standards, multi-casting and image compression techniques are included. Latest Internet protocols for wireless communications Transcoding of Internet multimedia for universal access ATM and ISDN chapters Videoconferencing standards Speech and audio coding standards Multi-casting Latest image compression techniques

Multimedia Storage and Archiving Systems II - Society of Photo-optical Instrumentation Engineers 1997

Image and Video Processing - 1996

Internet Multimedia Management Systems - 2000

Digital Video Processing - A. Murat Tekalp 2015-06-06

Over the years, thousands of engineering students and professionals relied on Digital Video Processing as the definitive, in-depth guide to digital image and video processing technology. Now, Dr. A. Murat Tekalp has completely revamped the first edition to reflect today's technologies, techniques, algorithms, and trends. Digital Video Processing, Second Edition, reflects important advances in image processing, computer vision, and video compression, including new applications such as digital cinema, ultra-high-resolution video, and 3D video. This edition offers rigorous, comprehensive, balanced, and quantitative coverage of image filtering, motion estimation, tracking, segmentation, video filtering, and compression. Now organized and presented as a true tutorial, it contains updated problem sets and new MATLAB projects in every chapter. Coverage includes Multi-dimensional signals/systems: transforms, sampling, and lattice conversion Digital images and video: human vision, analog/digital video, and video quality Image filtering: gradient estimation, edge detection, scaling, multi-resolution representations, enhancement, de-noising, and restoration Motion estimation: image formation; motion models; differential, matching, optimization, and transform-domain methods; and 3D motion and shape estimation Video segmentation: color and motion segmentation, change detection, shot boundary detection, video matting, video tracking, and performance evaluation Multi-frame filtering: motion-compensated filtering, multi-frame standards conversion, multi-frame noise filtering, restoration, and super-resolution Image compression: lossless compression, JPEG, wavelets, and JPEG2000 Video compression: early standards, ITU-T H.264/MPEG-4 AVC, HEVC, Scalable Video Compression, and stereo/multi-view approaches

Geophysical Signal Analysis - Enders A. Robinson 2000

Addresses the construction, analysis, and interpretation of mathematical and statistical models. The practical use of the concepts and techniques developed is illustrated by numerous applications. The chosen examples will interest many readers, including those engaged in digital signal analysis in disciplines other than geophysics.

Antenna-in-Package Technology and Applications - Duixian Liu 2020-03-03

A comprehensive guide to antenna design, manufacturing processes, antenna integration, and packaging Antenna-in-Package Technology and Applications contains an introduction to the history of AiP technology. It explores antennas and packages, thermal analysis and design, as well as measurement setups and methods for AiP technology. The authors—well-

known experts on the topic—explain why microstrip patch antennas are the most popular and describe the myriad constraints of packaging, such as electrical performance, thermo-mechanical reliability, compactness, manufacturability, and cost. The book includes information on how the choice of interconnects is governed by JEDEC for automatic assembly and describes low-temperature co-fired ceramic, high-density interconnects, fan-out wafer level packaging–based AiP, and 3D-printing-based AiP. The book includes a detailed discussion of the surface laminar circuit–based AiP designs for large-scale mm-wave phased arrays for 94-GHz imagers and 28-GHz 5G New Radios. Additionally, the book includes information on 3D AiP for sensor nodes, near-field wireless power transfer, and IoT applications. This important book: • Includes a brief history of antenna-in-package technology • Describes package structures widely used in AiP, such as ball grid array (BGA) and quad flat no-leads (QFN) • Explores the concepts, materials and processes, designs, and verifications with special consideration for excellent electrical, mechanical, and thermal performance Written for students in electrical engineering, professors, researchers, and RF engineers, Antenna-in-Package Technology and Applications offers a guide to material selection for antennas and packages, antenna design with manufacturing processes and packaging constraints, antenna integration, and packaging.

The Engineering Index Annual - 1989

Since its creation in 1884, Engineering Index has covered virtually every major engineering innovation from around the world. It serves as the historical record of virtually every major engineering innovation of the 20th century. Recent content is a vital resource for current awareness, new production information, technological forecasting and competitive intelligence. The world?s most comprehensive interdisciplinary engineering database, Engineering Index contains over 10.7 million records. Each year, over 500,000 new abstracts are added from over 5,000 scholarly journals, trade magazines, and conference proceedings. Coverage spans over 175 engineering disciplines from over 80 countries. Updated weekly.

The Essential Guide to Video Processing - Alan C. Bovik 2009-07-07

This comprehensive and state-of-the art approach to video processing gives engineers and students a comprehensive introduction and includes full coverage of key applications: wireless video, video networks, video indexing and retrieval and use of video in speech processing. Containing all the essential methods in video processing alongside the latest standards, it is a complete resource for the professional engineer, researcher and graduate student. Numerous conceptual and numerical examples All the latest standards are thoroughly covered: MPEG-1, MPEG-2, MPEG-4, H.264 and AVC Coverage of the latest techniques in

video security "Like its sister volume "The Essential Guide to Image Processing," Professor Bovik's Essential Guide to Video Processing provides a timely and comprehensive survey, with contributions from leading researchers in the area. Highly recommended for everyone with an interest in this fascinating and fast-moving field." —Prof. Bernd Girod, Stanford University, USA * Edited by a leading person in the field who created the IEEE International Conference on Image Processing, with contributions from experts in their fields. * Numerous conceptual and numerical examples *All the latest standards are thoroughly covered: MPEG-1, MPEG-2, MPEG-4, H.264 and AVC. * Coverage of the latest techniques in video security

Multimedia Systems - Ralf Steinmetz 2013-03-09

Multimedia Systems discusses the basic characteristics of multimedia operating systems, networking and communication, and multimedia middleware systems. The overall goal of the book is to provide a broad understanding of multimedia systems and applications in an integrated manner: a multimedia application and its user interface must be developed in an integrated fashion with underlying multimedia middleware, operating systems, networks, security, and multimedia devices. Fundamental characteristics of multimedia operating and distributed communication systems are presented, especially scheduling algorithms and other OS supporting approaches for multimedia applications with soft-real-time deadlines, multimedia file systems and servers with their decision algorithms for data placement, scheduling and buffer management, multimedia communication, transport, and streaming protocols, services with their error control, congestion control and other Quality of Service aware and adaptive algorithms, synchronization services with their skew control methods, and group communication with their group coordinating algorithms and other distributed services.

Berkshire Encyclopedia of Human-computer Interaction - William Sims Bainbridge 2004

Presents a collection of articles on human-computer interaction, covering such topics as applications, methods, hardware, and computers and society.

Recent Advances in Image and Video Coding - Sudhakar Radhakrishnan 2016-11-23

This book is intended to attract the attention of practitioners and researchers in academia and industry interested in challenging paradigms of image and video coding algorithms with an emphasis on recent technological developments. All the chapters are well demonstrated by various researchers around the world covering the field of image and video processing. This book highlights the current research in the image and

video processing area such as image fusion, image segmentation and classification, image compression, machine vision algorithms and video compression. The entire work available in the book is mainly focusing on researchers who can do quality research in the area of image and video processing and related fields. Each chapter is an independent research which will definitely motivate the young researchers to ponder into. These eleven chapters available in five sections will be an eye-opener for all who are doing systematic research in these fields.

Multimedia Content Representation, Classification and Security - Bilge Gunsel 2006-09-04

This book constitutes the refereed proceedings of the International Workshop on Multimedia Content Representation, Classification and Security, MRCS 2006. The book presents 100 revised papers together with 4 invited lectures. Coverage includes biometric recognition, multimedia content security, steganography, watermarking, authentication, classification for biometric recognition, digital watermarking, content analysis and representation, 3D object retrieval and classification, representation, analysis and retrieval in cultural heritage, content representation, indexing and retrieval, and more.

Three-Dimensional Television - H.M. Ozaktas 2007-11-13

This book is the condensed result of an extensive European project developing the future of 3D-Television. The book describes the state of the art in relevant topics: Capture of 3D scene for input to 3DTV system; Abstract representation of captured 3D scene information in digital form; Specifying data exchange format; Transmission of coded data; Conversion of 3DTV data for holographic and other displays; Equipment to decode and display 3DTV signal.

Intelligent Image and Video Compression - David R. Bull 2021-04-09

Previous edition: published as Communicating pictures by David R. Bull. 2014.

Science Abstracts - 1995

C++ 程序设计 - James P. Cohoon 2002

本书介绍使用C++进行程序设计和软件开发的基本原理,适用作大学各专业学生学习面向对象程序设计课的教材。

Image Analysis and Recognition - Mohamed Kamel 2005-10-10

ICIAR 2005, the International Conference on Image Analysis and Recognition, was the second ICIAR conference, and was held in Toronto, Canada. ICIAR is organized annually, and alternates between Europe and North America. ICIAR 2004 was held in Porto, Portugal. The idea of o?ering these conferences came as a result of discussion between researchers in Portugal and Canada to encourage collaboration and

exchange, mainly between these two countries, but also with the open participation of other countries, addressing recent advances in theory, methodology and applications.

TheresponsetothecallforpapersforICIAR2005wasencouraging.From295 full papers submitted, 153 were ?nally accepted (80 oral presentations, and 73 posters). The review process was carried out by the Program Committee m-

bersandotherreviewers;allareexpertsinvariousimageanalysisandrecognition areas. Each paper was reviewed by at least two reviewers, and also checked by the conference co-chairs. The high quality of the papers in these proceedings is attributed ?rst to the authors,and second to the quality of the reviews provided by the experts. We would like to thank the authors for responding to our call, andwewholeheartedlythankthe reviewersfor theirexcellentwork,andfortheir timely response. It is this collective e?ort that resulted in the strong conference program and high-quality proceedings in your hands.

Digital Signal Processing Handbook on CD-ROM - VIJAY MADISETTI 1999-02-26

A best-seller in its print version, this comprehensive CD-ROM reference contains unique, fully searchable coverage of all major topics in digital signal processing (DSP), establishing an invaluable, time-saving resource for the engineering community. Its unique and broad scope includes contributions from all DSP specialties, including: telecommunications, computer engineering, acoustics, seismic data analysis, DSP software and hardware, image and video processing, remote sensing, multimedia applications, medical technology, radar and sonar applications

Dissertation Abstracts International - 2007