

New Methods In Bayer Demosaicking Algorithms

Digital Photoelasticity Single-Sensor Imaging Computer Vision - ECCV 2018 Computer Engineering and Technology Pattern Recognition Pattern Recognition Intelligent Interactive Multimedia Systems and Services Cutting edge robotics Computational Science — ICCS 2004 Proceedings of the International Conference on Information Engineering, Management and Security 2015 Proceedings of 2nd International Conference on Computer Vision & Image Processing Computational Science -- ICCS 2005 Emerging Intelligent Computing Technology and Applications Computer Vision -- ECCV 2006 VHDL Image Processing Computational Photography The Structure and Properties of Color Spaces and the Representation of Color Images Small-Format Aerial Photography Image Processing for Embedded Devices Passive, Active, and Digital Filters Computer Vision - ACCV 2020 Color Image Processing Sensor Signal and Information Processing II Image Analysis and Recognition Advances in Image and Video Technology Color Image and Video Enhancement Handbook of Digital Imaging Reconfigurable Computing: Architectures, Tools, and Applications Micro-Electronics and Telecommunication Engineering Advances in Imaging and Electron Physics Computer Analysis of Images and Patterns Image Analysis Advanced Concepts for Intelligent Vision Systems Recent Advances in Image Restoration with Applications to Real World Problems Handbook of Machine and Computer Vision Image and Signal Processing Information Systems Design and Intelligent Applications Digital Video Processing for Engineers Computer Vision and Graphics Understanding Photography

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Handbook of Machine and Computer Vision Nov 30 2019 The second edition of this accepted reference work has been updated to reflect the rapid developments in the field and now covers both 2D and 3D imaging. Written by expert practitioners from leading companies operating in machine vision, this one-stop handbook guides readers through all aspects of image acquisition and image processing, including optics, electronics and software. The authors approach the subject in terms of industrial applications, elucidating such topics as illumination and camera calibration. Initial chapters concentrate on the latest hardware aspects, ranging from lenses and camera systems to camera-computer interfaces, with the software necessary discussed to an equal depth in later sections. These include digital image basics as well as image analysis and image processing. The book concludes with extended coverage of industrial applications in optics and electronics, backed by case studies and design strategies for the conception of complete machine vision systems. As a result, readers are not only able to understand the latest systems, but also to plan and evaluate this technology. With more than 500 images and tables to illustrate relevant principles and steps.

Computational Photography Jul 19 2021 Computational photography refers broadly to imaging techniques that enhance or extend the capabilities of digital photography. This new and rapidly developing research field has evolved from computer vision, image processing, computer graphics and applied optics—and numerous commercial products capitalizing on its principles have already appeared in diverse market applications, due to the gradual migration of computational algorithms from computers to imaging devices and software. Computational Photography: Methods and Applications provides a strong, fundamental understanding of theory and methods, and a foundation upon which to build solutions for many of today's most interesting and challenging computational imaging problems. Elucidating cutting-edge advances and applications in digital imaging, camera image processing, and computational photography, with a focus on related research challenges, this book: Describes single capture image fusion technology for consumer digital cameras Discusses the steps in a camera image processing pipeline, such as visual data compression, color correction and enhancement, denoising, demosaicking, super-resolution reconstruction, deblurring, and high dynamic range imaging Covers shadow detection for surveillance applications, camera-driven document rectification, bilateral filtering and its applications, and painterly rendering of digital images Presents machine-learning methods for automatic image colorization and digital face beautification Explores light field acquisition and processing, space-time light field rendering, and

dynamic view synthesis with an array of cameras Because of the urgent challenges associated with emerging digital camera applications, image processing methods for computational photography are of paramount importance to research and development in the imaging community. Presenting the work of leading experts, and edited by a renowned authority in digital color imaging and camera image processing, this book considers the rapid developments in this area and addresses very particular research and application problems. It is ideal as a stand-alone professional reference for design and implementation of digital image and video processing tasks, and it can also be used to support graduate courses in computer vision, digital imaging, visual data processing, and computer graphics, among others.

Digital Photoelasticity Nov 03 2022 A straightforward introduction to basic concepts and methodologies for digital photoelasticity, providing a foundation on which future researchers and students can develop their own ideas. The book thus promotes research into the formulation of problems in digital photoelasticity and the application of these techniques to industries. In one volume it provides data acquisition by DIP techniques, its analysis by statistical techniques, and its presentation by computer graphics plus the use of rapid prototyping technologies to speed up the entire process. The book not only presents the various techniques but also provides the relevant time-tested software codes. Exercises designed to support and extend the treatment are found at the end of each chapter.

Handbook of Digital Imaging Aug 08 2020 A comprehensive and practical analysis and overview of the imaging chain through acquisition, processing and display The Handbook of Digital Imaging provides a coherent overview of the imaging science amalgam, focusing on the capture, storage and display of images. The volumes are arranged thematically to provide a seamless analysis of the imaging chain from source (image acquisition) to destination (image print/display). The coverage is planned to have a very practical orientation to provide a comprehensive source of information for practicing engineers designing and developing modern digital imaging systems. The content will be drawn from all aspects of digital imaging including optics, sensors, quality, control, colour encoding and decoding, compression, projection and display. Contains approximately 50 highly illustrated articles printed in full colour throughout Over 50 Contributors from Europe, US and Asia from academia and industry The 3 volumes are organized thematically for enhanced usability: Volume 1: Image Capture and Storage; Volume 2: Image Display and Reproduction, Hardcopy Technology, Halftoning and Physical Evaluation, Models for Halftone Reproduction; Volume 3: Imaging System Applications, Media Imaging, Remote Imaging, Medical and Forensic Imaging 3 Volumes www.handbookofdigitalimaging.com

Computer Engineering and Technology Jul 31 2022 This book constitutes the refereed proceedings of the 22nd CCF Conference on Computer Engineering and Technology, NCCET 2018, held in Yinchuan, China, in August 2018. The 17 full papers presented were carefully reviewed and selected from 120 submissions. They address topics such as processor architecture; application specific processors; computer application and software optimization; technology on the horizon.

Computer Vision - ECCV 2018 Sep 01 2022 The sixteen-volume set comprising the LNCS volumes 11205-11220 constitutes the refereed proceedings of the 15th European Conference on Computer Vision, ECCV 2018, held in Munich, Germany, in September 2018. The 776 revised papers presented were carefully reviewed and selected from 2439 submissions. The papers are organized in topical sections on learning for vision; computational photography; human analysis; human sensing; stereo and reconstruction; optimization; matching and recognition; video attention; and poster sessions.

Proceedings of the International Conference on Information Engineering, Management and Security 2015 Jan 25 2022 ICIEMS 2015 is the conference aim is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Engineering Technology, Industrial Engineering, Application Level Security and Management Science. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

Passive, Active, and Digital Filters Mar 15 2021 Upon its initial publication, The Circuits and Filters Handbook broke new ground. It quickly became the resource for comprehensive coverage of issues and practical information that can be put to immediate use. Not content to rest on his laurels, in addition to updating the second edition, editor Wai-Kai Chen divided it into tightly-focused texts that made the information easily accessible and digestible. These texts have been revised, updated, and expanded so that they continue to provide solid coverage of standard practices and enlightened perspectives on new and emerging techniques. Passive, Active, and Digital Filters provides an introduction to the characteristics of analog filters and a review of the design process and the tasks that need to be undertaken to translate a set of filter specifications into a working prototype. Highlights include discussions of the passive cascade synthesis and the synthesis of LCM and RC one-port networks; a summary of two-port synthesis by ladder development; a comparison of the cascade approach, the multiple-loop feedback topology, and ladder simulations; an examination of four types of finite wordlength effects; and coverage of methods for designing two-dimensional finite-extent impulse response (FIR) discrete-time filters. The book includes coverage of the basic building blocks involved in low- and high-order filters, limitations and practical design considerations, and a brief discussion of low-voltage circuit design. Revised Chapters: Sensitivity and Selectivity Switched-Capacitor Filters FIR Filters IIR Filters VLSI Implementation of Digital Filters Two-Dimensional FIR Filters Additional Chapters: 1-D Multirate Filter Banks Directional Filter Banks Nonlinear Filtering Using Statistical Signal Models Nonlinear Filtering for Image Denoising Video Demosaicking Filters This volume will undoubtedly take its place as the engineer's first choice in looking for solutions to problems encountered when designing filters.

VHDL Image Processing Aug 20 2021

Computer Analysis of Images and Patterns Apr 03 2020 This volume presents the proceedings of the 11th International Conference on Computer Analysis of Images and Patterns (CAIP 2005). This conference series started about 20 years ago in Berlin. Initially, the conference served as a forum for meetings between scientists from Western and Eastern-block countries. Nowadays, the conference attracts participants from all over the world. The conference gives equal weight to posters and oral presentations, and the selected presentation mode is based on the most appropriate communication medium. The program follows a single-track format, rather than parallel sessions. Non-overlapping oral and poster sessions ensure that all attendees have the opportunity to interact personally with presenters. As for the numbers, we received a total of 185 submissions. All papers were reviewed by two to four members of the Program Committee. The final selection was carried out by the Conference Chairs. Out of the 185 papers, 65 were selected for oral presentation and 43 as posters. CAIP is becoming well recognized internationally, and this year's presentations came from 26 different countries. South Korea proved to be the most active scientifically with

a total of 16 - cepted papers. At this point, we wish to thank the Program Committee and additional referees for their timely and high-quality reviews. The paper submission and review procedure was carried out electronically. We also thank the invited speakers Reinhardt Koch and Thomas Vetter for kindly accepting to present invited papers.

Computer Vision -- ECCV 2006 Sep 20 2021 The four-volume set comprising LNCS volumes 3951/3952/3953/3954 constitutes the refereed proceedings of the 9th European Conference on Computer Vision, ECCV 2006. The 192 papers presented cover the entire range of current issues in computer vision. The papers are organized in topical sections on recognition, statistical models and visual learning, 3D reconstruction and multi-view geometry, energy minimization, tracking and motion, segmentation, shape from X, visual tracking, face detection and recognition, and more.

Micro-Electronics and Telecommunication Engineering Jun 05 2020 The book presents high-quality papers from the Fourth International Conference on Microelectronics and Telecommunication Engineering (ICMETE 2021). It discusses the latest technological trends and advances in major research areas such as microelectronics, wireless communications, optical communication, signal processing, image processing, big data, cloud computing, artificial intelligence and sensor network applications. This book includes the contributions of national and international scientists, researchers, and engineers from both academia and the industry. The contents of this volume will be useful to researchers, professionals, and students alike.

Intelligent Interactive Multimedia Systems and Services Apr 27 2022 KES International (KES) is a worldwide organisation that provides a professional community and association for researchers, originally in the discipline of Knowledge Based and Intelligent Engineering Systems, but now extending into other related areas. Through this, KES provides its members with opportunities for publication and beneficial interaction. The focus of KES is research and technology transfer in the area of Intelligent Systems, i.e. computer-based software systems that operate in a manner analogous to the human brain, in order to perform advanced tasks. Recently KES has started to extend its area of interest to encompass the contribution that intelligent systems can make to sustainability and renewable energy, and also the knowledge transfer, innovation and enterprise agenda. Involving several thousand researchers, managers and engineers drawn from universities and companies world-wide, KES is in an excellent position to facilitate international research co-operation and generate synergy in the area of artificial intelligence applied to real-world 'Smart' systems and the underlying related theory. The KES annual conference covers a broad spectrum of intelligent systems topics and attracts several hundred delegates from a range of countries round the world. KES also organises symposia on specific technical topics, for example, Agent and Multi Agent Systems, Intelligent Decision Technologies, Intelligent Interactive Multimedia Systems and Services, Sustainability in Energy and Buildings and Innovations through Knowledge Transfer. KES is responsible for two peer-reviewed journals, the International Journal of Knowledge based and Intelligent Engineering Systems, and Intelligent Decision Technologies: an International Journal.

Image and Signal Processing Oct 29 2019 This book constitutes the refereed proceedings of the 6th International Conference, ICISP 2014, held in June/July 2014 in Cherbourg, France. The 76 revised full papers were carefully reviewed and selected from 164 submissions. The contributions are organized in topical sections on multispectral colour science, color imaging and applications, digital cultural heritage, document image analysis, graph-based representations, image filtering and representation, computer vision and pattern recognition, computer graphics, biomedical, and signal processing.

Single-Sensor Imaging Oct 02 2022 A Decade of Extraordinary Growth The past decade has brought a surge of growth in the technologies for digital color imaging, multidimensional signal processing, and visual scene analysis. These advances have been crucial to developing new camera-driven applications and commercial products in digital photography. Single-Sensor Imaging: Methods and Applications for Digital Cameras embraces this extraordinary progress, comprehensively covering state-of-the-art systems, processing techniques, and emerging applications. Experts Address Challenges and Trends Single-Sensor Imaging: Methods and Applications for Digital Cameras presents leading experts elucidating their own accomplishments in developing the technologies reshaping this field. The editor invited renowned authorities to address specific research challenges and recent trends in their particular areas of expertise. The book discusses single-sensor digital color imaging fundamentals, including reusable embedded

software platform, digital camera image processing chain, optical filter and color filter array designs. It also details the latest techniques and approaches in contemporary and traditional digital camera color image processing and analysis for various sophisticated applications, including: Demosaicking and color restoration White balancing and color transfer Color and exposure correction Image denoising and color enhancement Image compression and storage formats Red-eye detection and removal Image resizing Video demosaicking and superresolution imaging Image and video stabilization A Solid Foundation of Knowledge to Solve Problems Single-Sensor Imaging: Methods and Applications for Digital Cameras builds a strong fundamental understanding of theory and methods for solving many of today's most interesting and challenging problems in digital color image and video acquisition, analysis, processing, and storage. A broad survey of the existing solutions and relevant literature makes this book a valuable resource both for researchers and those applying rapidly evolving digital camera technologies.

Advances in Image and Video Technology Oct 10 2020 These proceedings are a manifestation of the excellent scientific contributions presented at the Second IEEE Pacific Rim Symposium on Video and Image Technology (PSIVT 2007), held in Santiago, Chile, during December 17-19, 2007. The symposium provided a forum for presenting and exploring the latest research and developments in image and video technology. Discussing the possibilities and directions in these fields settled a place where both academic research and industrial activities were presented for mutual benefit. The aim of the symposium was to promote and disseminate ongoing research on multi-media hardware and image sensor technologies, graphics and visualization, image analysis, multiple view imaging and processing, computer vision applications, image and video coding, and multimedia processing. The volume is a realization of the ongoing success of the Pacific Rim Symposium on Video and Image Technology for which the first issue (PSIVT 2006) was last year in Hsinchu, Taiwan, Republic of China. PSIVT 2007 provides evidence of the growing stature of the Pacific Rim scientific community in video and image technology and of their impact worldwide. The symposium received contributions from 31 countries, registering a total of 155 papers, out of which 75 were accepted for publication in these proceedings, which is equivalent to an acceptance rate of 48.4%. The review process was carried out in seven different themes, each composed of theme Co-chairs and a Program Committee composed of internationally recognized scientists, all experts in their respective theme. Each paper was peer-reviewed by two to three reviewers.

Sensor Signal and Information Processing II Dec 12 2020 In the current age of information explosion, newly invented technological sensors and software are now tightly integrated with our everyday lives. Many sensor processing algorithms have incorporated some forms of computational intelligence as part of their core framework in problem solving. These algorithms have the capacity to generalize and discover knowledge for themselves and learn new information whenever unseen data are captured. The primary aim of sensor processing is to develop techniques to interpret, understand, and act on information contained in the data. The interest of this book is in developing intelligent signal processing in order to pave the way for smart sensors. This involves mathematical advancement of nonlinear signal processing theory and its applications that extend far beyond traditional techniques. It bridges the boundary between theory and application, developing novel theoretically inspired methodologies targeting both longstanding and emergent signal processing applications. The topic ranges from phishing detection to integration of terrestrial laser scanning, and from fault diagnosis to bio-inspired filtering. The book will appeal to established practitioners, along with researchers and students in the emerging field of smart sensors processing.

Image Analysis Mar 03 2020 This proceedings volume collects the scientific presentations of the Scandinavian Conference on Image Analysis, SCIA 2005, which was held at the University of Joensuu, Finland, June 19-22, 2005. The conference was the fourteenth in the series of biennial conferences started in 1980. The name of the series reflects the fact that the conferences are organized in the Nordic (Scandinavian) countries, following the cycle Sweden, Finland, Denmark, and Norway. The event itself has always been international in its participants and presentations. Today there are many conferences in the fields related to SCIA. In this situation our goal is to keep up the reputation for the high quality and friendly environment of SCIA. We hope that participants feel that it's worth attending the conference. Therefore, both the scientific and social program were designed to support the best features of a scientific meeting: to

get new ideas for research and to have the possibility to exchange thoughts with fellow scientists. To fulfill the above-mentioned goals, the conference was a single-track event. This meant that a higher percentage of the papers than in earlier SCIA were presented as posters. We hope that this gave the participants better chances to follow the presentations that they were interested in. SCIA 2005 attracted a record number of submissions: 236 manuscripts. From these, 124 were accepted: 31 oral presentations and 93 poster presentations. This led to an acceptance rate of 53%. The program included also six plenary presentations and three tutorials.

Small-Format Aerial Photography May 17 2021 As the need for geographical data rapidly expands in the 21st century, so too do applications of small-format aerial photography for a wide range of scientific, commercial and governmental purposes. Small-format Aerial Photography (SFAP) presents basic and advanced principles and techniques with an emphasis on digital cameras. Unmanned platforms are described in considerable detail, including kites, helium and hot-air blimps, model airplanes, and paragliders. Several case studies, primarily drawn from the geosciences, are presented to demonstrate how SFAP is actually used in various applications. Many of these integrate SFAP with ground-based investigations as well as conventional large-format aerial photography, satellite imagery, and other kinds of geographic information. Full-color photographs throughout Case studies from around the globe Techniques presented allow for image resolution impossible to match via traditional aerial photography or satellite datasets Glossary clarifies key terms

Pattern Recognition Jun 29 2022 This book constitutes the refereed proceedings of the 31st Symposium of the German Association for Pattern Recognition, DAGM 2009, held in Jena, Germany, in September 2009. The 56 revised full papers were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on motion and tracking; pedestrian recognition and automotive applications; features; single-view and 3D reconstruction; learning and classification; pattern recognition and estimation; stereo and multi-view reconstruction; image analysis and applications; and segmentation.

Advanced Concepts for Intelligent Vision Systems Jan 31 2020 This volume collects the papers accepted for presentation at the 12th International Conference on "Advanced Concepts for Intelligent Vision Systems" (ACIVS 2010). Following the first meeting in Baden-Baden (Germany) in 1999, which was part of a large multi-conference, the ACIVS conference then developed into an independent scientific event and has ever since maintained the tradition of being a single track conference. ACIVS 2010 attracted computer scientists from 29 different countries, mostly from Europe, Australia, and the USA, but also from Asia. Although ACIVS is a conference on all areas of image and video processing, submissions tend to gather within certain major fields of interest. This year 3D and depth processing and computer vision and surveillance were popular topics. Noteworthy are the growing number of papers related to theoretical developments. We would like to thank the invited speakers Mubarak Shah (University of Central Florida), Richard Kleihorst (VITO, Belgium), Richard Hartley (Australian National University), and David Suter (Adelaide University) for their valuable contributions.

Color Image Processing Jan 13 2021 Color Image Processing: Methods and Applications embraces two decades of extraordinary growth in the technologies and applications for color image processing. The book offers comprehensive coverage of state-of-the-art systems, processing techniques, and emerging applications of digital color imaging. To elucidate the significant progress in specialized areas, the editors invited renowned authorities to address specific research challenges and recent trends in their area of expertise. The book begins by focusing on color fundamentals, including color management, gamut mapping, and color constancy. The remaining chapters detail the latest techniques and approaches to contemporary and traditional color image processing and analysis for a broad spectrum of sophisticated applications, including: Vector and semantic processing Secure imaging Object recognition and feature detection Facial and retinal image analysis Digital camera image processing Spectral and superresolution imaging Image and video colorization Virtual restoration of artwork Video shot segmentation and surveillance Color Image Processing: Methods and Applications is a versatile resource that can be used as a graduate textbook or as stand-alone reference for the design and the implementation of various image and video processing tasks for cutting-edge applications. This book is part of the Digital Imaging and Computer Vision series.

Digital Video Processing for Engineers Aug 27 2019 Any device or system with imaging functionality requires a digital video processing solution as part of its embedded system design. Engineers need a practical guide to technology basics and design fundamentals that enables them to deliver the video component of complex projects. This book introduces core video processing concepts and standards, and delivers practical how-to guidance for engineers embarking on digital video processing designs using FPGAs. It covers the basic topics of video processing in a pictorial, intuitive manner with minimal use of mathematics. Key outcomes and benefits of this book for users include: understanding the concepts and challenges of modern video systems; architect video systems at a system level; reference design examples to implement your own high definition video processing chain; understand implementation trade-offs in video system designs. Video processing is a must-have skill for engineers working on products and solutions for rapidly growing markets such as video surveillance, video conferencing, medical imaging, military imaging, digital broadcast equipment, displays and countless consumer electronics applications This book is for engineers who need to develop video systems in their designs but who do not have video processing experience. It introduces the fundamental video processing concepts and skills in enough detail to get the job done, supported by reference designs, step-by-step FPGA- examples, core standards and systems architecture maps Written by lead engineers at Altera Corp, a top-three global developer of digital video chip (FPGA) technology

Reconfigurable Computing: Architectures, Tools, and Applications Jul 07 2020 This book constitutes the thoroughly refereed conference proceedings of the 10th International Symposium on Reconfigurable Computing: Architectures, Tools and Applications, ARC 2014, held in Vilamoura, Portugal, in April 2014. The 16 revised full papers presented together with 17 short papers and 6 special session papers were carefully reviewed and selected from 57 submissions. The topics covered are applications; methods, frameworks and OS for debug, over-clocking, and relocation; memory architectures; methodologies and tools and architectures.

The Structure and Properties of Color Spaces and the Representation of Color Images Jun 17 2021 This lecture describes the author's approach to the representation of color spaces and their use for color image processing. The lecture starts with a precise formulation of the space of physical stimuli (light). The model includes both continuous spectra and monochromatic spectra in the form of Dirac deltas. The spectral densities are considered to be functions of a continuous wavelength variable. This leads into the formulation of color space as a three-dimensional vector space, with all the associated structure. The approach is to start with the axioms of color matching for normal human viewers, often called Grassmann's laws, and developing the resulting vector space formulation. However, once the essential defining element of this vector space is identified, it can be extended to other color spaces, perhaps for different creatures and devices, and dimensions other than three. The CIE spaces are presented as main examples of color spaces. Many properties of the color space are examined. Once the vector space formulation is established, various useful decompositions of the space can be established. The first such decomposition is based on luminance, a measure of the relative brightness of a color. This leads to a direct-sum decomposition of color space where a two-dimensional subspace identifies the chromatic attribute, and a third coordinate provides the luminance. A different decomposition involving a projective space of chromaticity classes is then presented. Finally, it is shown how the three types of color deficiencies present in some groups of humans leads to a direct-sum decomposition of three one-dimensional subspaces that are associated with the three types of cone photoreceptors in the human retina. Next, a few specific linear and nonlinear color representations are presented. The color spaces of two digital cameras are also described. Then the issue of transformations between different color spaces is addressed. Finally, these ideas are applied to signal and system theory for color images. This is done using a vector signal approach where a general linear system is represented by a three-by-three system matrix. The formulation is applied to both continuous and discrete space images, and specific problems in color filter array sampling and displays are presented for illustration. The book is mainly targeted to researchers and graduate students in fields of signal processing related to any aspect of color imaging.

Advances in Imaging and Electron Physics May 05 2020 Advances in Imaging and Electron Physics merges two long-running serials--Advances in Electronics and Electron Physics and Advances in Optical and

Electron Microscopy. This series features extended articles on the physics of electron devices (especially semiconductor devices), particle optics at high and low energies, microlithography, image science and digital image processing, electromagnetic wave propagation, electron microscopy, and the computing methods used in all these domains. Contributions from leading international scholars and industry experts Discusses hot topic areas and presents current and future research trends Invaluable reference and guide for physicists, engineers and mathematicians

Color Image and Video Enhancement Sep 08 2020 This text covers state-of-the-art color image and video enhancement techniques. The book examines the multivariate nature of color image/video data as it pertains to contrast enhancement, color correction (equalization, harmonization, normalization, balancing, constancy, etc.), noise removal and smoothing. This book also discusses color and contrast enhancement in vision sensors and applications of image and video enhancement.

Information Systems Design and Intelligent Applications Sep 28 2019 The second international conference on Information Systems Design and Intelligent Applications (INDIA - 2015) held in Kalyani, India during January 8-9, 2015. The book covers all aspects of information system design, computer science and technology, general sciences, and educational research. Upon a double blind review process, a number of high quality papers are selected and collected in the book, which is composed of two different volumes, and covers a variety of topics, including natural language processing, artificial intelligence, security and privacy, communications, wireless and sensor networks, microelectronics, circuit and systems, machine learning, soft computing, mobile computing and applications, cloud computing, software engineering, graphics and image processing, rural engineering, e-commerce, e-governance, business computing, molecular computing, nano computing, chemical computing, intelligent computing for GIS and remote sensing, bio-informatics and bio-computing. These fields are not only limited to computer researchers but also include mathematics, chemistry, biology, bio-chemistry, engineering, statistics, and all others in which computer techniques may assist.

Computational Science -- ICCS 2005 Nov 22 2021 The Fifth International Conference on Computational Science (ICCS 2005) held in Atlanta, Georgia, USA, May 22-25, 2005, continued in the tradition of previous conferences in the series: ICCS 2004 in Krakow, Poland; ICCS 2003 held simultaneously at two locations, in Melbourne, Australia and St. Petersburg, Russia; ICCS 2002 in Amsterdam, The Netherlands; and ICCS 2001 in San Francisco, California, USA. Computational science is rapidly maturing as a mainstream discipline. It is central to an ever-expanding variety of fields in which computational methods and tools enable new discoveries with greater accuracy and speed. ICCS 2005

was organized as a forum for scientists from the core disciplines of computational science and numerous application areas to discuss and exchange ideas, results, and future directions. ICCS participants included researchers from many application domains, including those interested in advanced computational methods for physics, chemistry, life sciences, engineering, economics and finance, arts and humanities, as well as computer system vendors and software developers. The primary objectives of this conference were to discuss problems and solutions in all areas, to identify new issues, to shape future directions of research, and to help users apply various advanced computational techniques. The event highlighted recent developments in algorithms, computational kernels, next generation computing systems, tools, advanced numerical methods, data-driven systems, and emerging application fields, such as complex systems, finance, bioinformatics, computational aspects of wireless and mobile networks, graphics, and hybrid computation.

Recent Advances in Image Restoration with Applications to Real World Problems Jan 01 2020 In the past few decades, imaging hardware has improved tremendously in terms of resolution, making widespread usage of images in many diverse applications on Earth and planetary missions. However, practical issues associated with image acquisition are still affecting image quality. Some of these issues such as blurring, measurement noise, mosaicing artifacts, low spatial or spectral resolution, etc. can seriously affect the accuracy of the aforementioned applications. This book intends to provide the reader with a glimpse of the latest developments and recent advances in image restoration, which includes image super-resolution, image fusion to enhance spatial, spectral resolution, and temporal resolutions, and the generation of synthetic images using deep learning techniques. Some practical applications are also included.

Emerging Intelligent Computing Technology and Applications Oct 22 2021 This book - in conjunction with the volume LNAI 5755 - constitutes the refereed proceedings of the 5th International Conference on Intelligent Computing, ICIC 2009, held in Ulsan, South Korea in September 2009. The 214 revised full papers of these two volumes were carefully reviewed and selected from a total of 1082 submissions. The papers are organized in topical sections on Supervised & Semi-supervised Learning, Machine Learning Theory and Methods, Biological and Quantum Computing, Intelligent Computing in Bioinformatics, Intelligent Computing in Computational Biology and Drug Design, Computational Genomics and Proteomics, Intelligent Computing in Signal Processing, Intelligent Computing in Pattern Recognition, Intelligent Computing in Image Processing, Intelligent Computing in Communication and Computer Networks, Intelligent Computing in Robotics, Intelligent Computing in Computer Vision, Intelligent Agent and Web Applications, Intelligent Sensor Networks, Intelligent Fault Diagnosis & Financial Engineering, Intelligent Control and Automation, Intelligent Data Fusion and Security, Intelligent Prediction & Time Series Analysis, Natural Language Processing and Expert Systems, Intelligent Image/Document Retrievals, Computational Analysis and Data Mining in Biological Systems, Knowledge-Based Systems and Intelligent Computing in Medical Imaging, Applications of Intelligent Computing in Information Assurance & Security, Computational Analysis and Applications in Biomedical System, Intelligent Computing Algorithms in Banking and Finance, and Network-Based Intelligent Technologies.

Understanding Photography Jun 25 2019 Comprehensive, heavily illustrated volume introduces the concepts and techniques of digital image capture, including exposure, composition, histograms, depth of field, advanced lighting, lens filters, shutter speed, and autofocus. Learn the core concepts and techniques you need to know to take better photos, from choosing the best lens for your stylistic goals to selecting the right camera settings for different lighting conditions. With clear explanations and highly visual examples, Sean T. McHugh takes you from basic concepts like exposure and depth of field to more advanced topics, such as how camera lenses and sensors capture light to produce images. You'll learn not only which camera settings to use in different situations but also the reasons why. Learn how to: - Choose lenses that give greater control over perspective - Minimize image noise by understanding how digital sensors work - Get the exposure you want even in fog, mist, or haze - Improve hand-held shots by mastering shutter speed and autofocus - Use tripods, lens filters, and flash to enhance image capture Whether you want to understand digital photography at a deeper level or simply want to take better photos, Understanding Photography will help you get the most out of your camera.

Cutting edge robotics Mar 27 2022

Computer Vision - ACCV 2020 Feb 11 2021 The six volume set of LNCS 12622-12627 constitutes the proceedings of the 15th Asian Conference on Computer Vision, ACCV 2020, held in Kyoto, Japan, in November/ December 2020.* The total of 254 contributions was carefully reviewed and selected from 768 submissions during two rounds of reviewing and improvement. The papers focus on the following topics: Part I: 3D computer vision; segmentation and grouping Part II: low-level vision, image processing; motion and tracking Part III: recognition and detection; optimization, statistical methods, and learning; robot vision Part IV: deep learning for computer vision, generative models for computer vision Part V: face, pose, action, and gesture; video analysis and event recognition; biomedical image analysis Part VI: applications of computer vision; vision for X; datasets and performance analysis *The conference was held virtually.

Computer Vision and Graphics Jul 27 2019 As the speed, capabilities, and economic advantages of modern digital devices continue to grow, the need for efficient information processing, especially in computer vision and graphics, dramatically increases. Growth in these fields stimulated by emerging applications has been both in concepts and techniques. New ideas, concepts and techniques are developed, presented, discussed and evaluated, subsequently expanded or abandoned. Such processes take place in different forms in various fields of the computer science and technology. The objectives of the ICCVG are: presentation of current research topics and discussions leading to the integration of the community engaged in machine vision and computer graphics, carrying out and supporting research in the field and finally promotion of new applications. The ICCVG is a continuation of the former International Conference on Computer Graphics and Image Processing called GKPO, held in Poland every second year in May since 1990, organized by the Institute of Computer Science of the Polish Academy of Sciences, Warsaw and

chaired by the Editor of the International Journal of Machine Graphics and Vision, Prof. Wojciech S. Mokrzycki.

Image Processing for Embedded Devices Apr 15 2021 "Embedded imaging devices such as digital still and video cameras, mobile phones, personal digital assistants, and visual sensors for surveillance and automotive applications make use of the single-sensor technology approach. An electronic sensor (Charge C"

Image Analysis and Recognition Nov 10 2020 ICIAR 2004, the International Conference on Image Analysis and Recognition, was the first ICIAR conference, and was held in Porto, Portugal. ICIAR will be organized annually, and will alternate between Europe and North America. ICIAR 2005 will take place in Toronto, Ontario, Canada. The idea of offering 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. The response to the call for papers for ICIAR 2004 was very positive. From 316 full papers submitted, 210 were accepted (97 oral presentations, and 113 - sters). The review process was carried out by the Program Committee members and other reviewers; all are experts in various image analysis and recognition areas. Each paper was reviewed by at least two reviewing parties. The high quality of the papers in these proceedings is attributed first 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, and we wholeheartedly thank the reviewers for their excellent work in such a short amount of time. We are especially indebted to the Program Committee for their efforts that allowed us to set up this publication. We were very pleased to be able to include in the conference, Prof. Murat Kunt from the Swiss Federal Institute of Technology, and Prof. Mario Figueiredo, of the Instituto Superior Tecnico, in Portugal.

Proceedings of 2nd International Conference on Computer Vision & Image Processing Dec 24 2021 The book provides insights into the Second International Conference on Computer Vision & Image Processing (CVIP-2017) organized by Department of Computer Science and Engineering of Indian Institute of Technology Roorkee. The book presents technological progress and research outcomes in the area of image processing and computer vision. The topics covered in this book are image/video processing and analysis; image/video formation and display; image/video filtering, restoration, enhancement and super-resolution; image/video coding and transmission; image/video storage, retrieval and authentication; image/video quality; transform-based and multi-resolution image/video analysis; biological and perceptual models for image/video processing; machine learning in image/video analysis; probability and uncertainty handling for image/video processing; motion and tracking; segmentation and recognition; shape, structure and stereo.

Computational Science — ICCS 2004 Feb 23 2022 The International Conference on Computational Science (ICCS 2004) held in Kraków, Poland, June 6–9, 2004, was a follow-up to the highly successful ICCS 2003 held at two locations, in Melbourne, Australia and St. Petersburg, Russia; ICCS 2002 in Amsterdam, The Netherlands; and ICCS 2001 in San Francisco, USA. As computational science is still evolving in its quest for subjects of investigation and efficient methods, ICCS 2004 was devised as a forum for scientists from mathematics and computer science, as the basic computing disciplines and application areas, interested in advanced computational methods for physics, chemistry, life sciences, engineering, arts and humanities, as well as computer system vendors and software developers. The main objective of this conference was to discuss problems and solutions in all areas, to identify new issues, to shape future directions of research, and to help users apply various advanced computational techniques. The event harvested recent developments in computational grids and next generation computing systems, tools, advanced numerical methods, data-driven systems, and novel application fields, such as complex systems, nanotechnology, econophysics and population evolution.

Pattern Recognition May 29 2022 In 2009, for the second time in a row, Jena hosted an extraordinary event. In the 2008, Jena celebrated the 450 birthday of the Friedrich Schiller University of Jena with the motto "Lichtgedanken" – "ashes of brilliance." This year, for almost one week, Jena became the center for the pattern recognition research community of the German-speaking countries in Europe by hosting the

31 Annual Symposium of the Deutsche Arbeitsgemeinschaft für Mustererkennung (DAGM). Jena is a special place for this event for several reasons. Firstly, it is the first time that the university of Jena has been selected to host this conference, and it is an opportunity to present the city of Jena as a fascinating combination of historic sites, an intellectual past, a delightful countryside, and innovative, international research and industry within Thuringia. Second, the conference takes place in an environment that has been heavily influenced by optics research and industry for more than 150 years. Third, in several schools and departments at the University of Jena, research

institutions and companies in the fields of pattern recognition, 3D computer vision, and machine learning play an important role. The university's involvement includes such diverse activities as industrial inspection, medical image processing and analysis, remote sensing, biomedical analysis, and cutting-edge developments in the field of physics, such as the recent development of the new terahertz imaging technique. Thus, DAGM 2009 was an important event to transfer basic research results to different applications in such areas.