Adaptive Color Contrast Enhancement For Digital Images

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Digital Image Enhancement and Reconstruction - Shyam Singh Rajput 2022-10-06
Digital Image Enhancement and Reconstruction: Techniques and Applications explores different concepts and techniques used for the enhancement as well as reconstruction of low-quality images. Most real-life applications require good quality images to gain maximum performance, however, the quality of the images captured in real-world scenarios is often very unsatisfactory. Most commonly, images are noisy, blurry, hazy, tiny, and hence need to pass through image enhancement and/or reconstruction algorithms before they can be processed by image analysis applications. This book comprehensively explores application-specific enhancement and reconstruction techniques including satellite image enhancement, face hallucination, low-resolution face recognition, medical image enhancement and reconstruction, reconstruction of underwater images, text image enhancement, biometrics, etc. Chapters will present a detailed discussion of the challenges faced in handling each particular kind of image, analysis of the best available solutions, and an exploration of applications and future directions. The book provides readers with a deep dive into denoising, dehazing, super-resolution, and use of soft computing across a range of engineering applications. Presents comprehensive coverage of digital image enhancement and reconstruction techniques Explores applications across range of fields, including intelligent surveillance systems, human-computer interaction, healthcare, agriculture, biometrics, modelling Explores different challenges and issues related to the implementation of various techniques for different types of images, including denoising, dehazing, super-resolution, and use of soft computing

Nature Inspired Optimization Techniques for Image Processing Applications - Jude Hemanth 2018-09-19
This book provides a platform for exploring nature-inspired optimization techniques in the context of imaging applications. Optimization has become part and parcel of all computational vision applications, and since the amount of data used in these applications is vast, the need for optimization techniques has increased exponentially. These accuracy and complexity are a major area of concern when it comes to practical applications. However, these optimization techniques have not yet been fully explored in the context of imaging applications. By presenting interdisciplinary concepts, ranging from optimization to image processing, the book appeals to a broad readership, while also encouraging budding engineers to pursue and employ innovative nature-inspired techniques for image processing applications.

Advances in Computing and Data Sciences - Mayank Singh 2018-10-30
This two-volume set (CCIS 905 and CCIS 906) constitutes the refereed proceedings of the Second International Conference on Advances in Computing and Data Sciences, ICACDS 2018, held in Dehradun, India, in April 2018. The 110 full papers were carefully reviewed and selected from 598 submissions. The papers are centered around topics like advanced computing, data sciences, distributed systems organizing principles, development frameworks and environments, software verification and validation, computational complexity and cryptography, machine learning theory, database theory, probabilistic representations.

Advances in Visual Computing - George Bebis 2011-09-24
The two volume set LNCS 6938 and LNCS 6939 constitutes the refereed proceedings of the 7th International Symposium on Visual Computing, ISVC 2011, held in Las Vegas, NV, USA, in September 2011. The 68 revised full papers and 46 poster papers presented together with 30 papers in the special tracks were carefully reviewed and selected from more than 240 submissions. The papers of part I (LNCS 6938) are organized in computational bioimaging, computer graphics, motion and tracking, segmentation, visualization; mapping modeling and surface reconstruction, biomedical imaging, computer graphics, interactive visualization in novel and heterogeneous display environments, object detection and recognition. Part II (LNCS 6939) comprises topics such as immersive visualization, applications, object detection and recognition, virtual reality, and best practices in teaching visual computing.

XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 - Laura M. Roa Romero 2013-10-01
The general theme of MEDICON 2013 is "Research and Development of Technology for Sustainable Healthcare". This decade is being characterized by the appearance and use of emergent technologies under development. This situation has produced a tremendous impact on Medicine and Biology from which it is expected an unparalleled evolution in these disciplines towards novel concept and practices. The consequence will be a significant improvement in health care and well-fare, i.e. the shift from a reactive medicine to a preventive medicine. This shift implies that the citizen will play an important role in the healthcare delivery process, what requires a comprehensive and personalized assistance. In this context, society will meet emerging media, incorporated to all objects, capable of providing a seamless, adaptive, anticipatory, unobtrusive and pervasive assistance. The challenge will be to remove current barriers related to the lack of knowledge required to produce new opportunities for all the society, while new paradigms are created for this inclusive society to be socially and economically sustainable, and respectful with the environment. In this way, these proceedings focus on the convergence of biomedical engineering topics ranging from formalized theory through experimental science and technological development to practical clinical applications.

Harmony Search and Nature Inspired Optimization Algorithms - Neha Yadav 2018-08-23
The book covers different aspects of real-world applications of optimization algorithms. It provides insights from the Fourth International Conference on Harmony Search, Soft Computing and Applications held at BML Munjal University, Gurgaon, India on February 7–9, 2018. It consists of research articles on novel and newly proposed optimization algorithms; the theoretical study of nature-inspired optimization algorithms; numerically established results of nature-inspired optimization algorithms; and real-world applications of optimization algorithms and synthetic benchmarking of optimization algorithms.

Advanced Machine Learning Approaches in Cancer Prognosis - Janmenjoy Nayak 2021-05-29
This book introduces a variety of advanced machine learning approaches covering the areas of neural networks, fuzzy logic, and hybrid intelligent systems for the determination and diagnosis of cancer. Moreover, the tactical solutions of machine learning have proved its vast range of significance and, provided novel solutions in the medical field for the diagnosis of disease. This book also explores the distinct deep learning approaches that are capable of yielding more accurate outcomes for the diagnosis of cancer. In addition to providing an overview of the emerging machine and deep learning approaches, it also enlightens an insight on how to evaluate the efficiency and appropriateness of such techniques and analysis of cancer data used in the cancer diagnosis. Therefore, this book focuses on the recent advancements in the machine learning and deep learning approaches used in the diagnosis of different types of cancer along

with their research challenges and future directions for the targeted audience including scientists, experts, Ph.D. students, postdocs, and anyone interested in the subjects discussed.

Inventive Communication and Computational Technologies - G. Ranganathan 2020-09-24
This book gathers selected papers presented at the 4th International Conference on Inventive Communication and Computational Technologies (ICICCT 2020), held on 28–29 May 2020 at Gnanamani College of Technology, Tamil Nadu, India. The respective contributions highlight recent research efforts and advances in a new paradigm called ISMAC (IoT in Social, Mobile, Analytics and Cloud contexts). The topics covered include the Internet of Things, Social Networks, Mobile Communications, Big Data Analytics, Bio-inspired Computing and Cloud Computing. Given its scope, the book is chiefly intended for academics and practitioners working to resolve practical issues in this area.

Information Systems Design and Intelligent Applications - Suresh Chandra Satapathy 2016-02-03
The third international conference on INformation Systems Design and Intelligent Applications (INDIA – 2016) held in Visakhapatnam, India during January 8-9, 2016. 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 three 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.

Applications of Hybrid Metaheuristic Algorithms for Image Processing - Diego Oliva 2020-03-27
This book presents a collection of the most recent hybrid methods for image processing. The algorithms included consider evolutionary, swarm, machine learning and deep learning. The respective chapters explore different areas of image processing, from image segmentation to the recognition of objects using complex approaches and medical applications. The book also discusses the theory of the methodologies used to provide an overview of the applications of these tools in image processing. The book is primarily intended for undergraduate and postgraduate students of science, engineering and computational mathematics, and can also be used for courses on artificial intelligence, advanced image processing, and computational intelligence. Further, it is a valuable resource for researchers from the evolutionary computation, artificial intelligence and image processing communities.

Image Analysis and Recognition - Aurélio Campilho 2010-06-14
This book constitutes the thoroughly refereed proceedings of the 7th International Conference, ICIAR 2010, held in Póvoa de Varzin, Portugal in June 2010. The 88 revised full papers were selected from 164 submissions. The papers are organized in topical sections on Image Morphology, Enhancement and Restoration, Image Segmentation, Featue Extraction and Pattern Recognition, Computer Vision, Shape, Texture and Motion Analysis, Coding, Indexing, and Retrieval, Face Detection and Recognition, Biomedical Image Analysis, Biometrics and Applications.

Advances in Intelligent Information Hiding and Multimedia Signal Processing - Jeng-Shyang Pan 2016-11-21
This volume of Smart Innovation, Systems and Technologies contains accepted papers presented in IIH-MSP-2016, the 12th International Conference on Intelligent Information Hiding and Multimedia Signal Processing. The conference this year was technically co-sponsored by Tainan Chapter of IEEE Signal Processing Society, Fujian University of Technology, Chaoyang University of Technology, Taiwan Association for Web Intelligence Consortium, Fujian Provincial Key Laboratory of Big Data Mining and Applications (Fujian University of Technology), and Harbin Institute of Technology Shenzhen Graduate School. IIH-MSP 2016 is held in 21-23, November, 2016 in Kaohsiung, Taiwan. The conference is an international forum for the researchers and professionals in all areas of information hiding and multimedia signal processing.

Systems and Computer Technology - Yunfei Chen 2015-09-17
This volume consists of papers presented at the 2014 International Symposium on Systems and Computer Technology (ISSCT 2014, Shanghai, China, 15-17 November 2014). The demand for systems and informatics have been constantly increasing, as more and more computer applications have been built. Great efforts have been made to improve the state of the the a

Data Mining - Rafiqul Islam 2019-02-15
This book constitutes the refereed proceedings of the 16th Australasian Conference on Data Mining, AusDM 2018, held in Bathurst, NSW, Australia, in November 2018. The 27 revised full papers presented together with 3 short papers were carefully reviewed and selected from 80 submissions. The papers are organized in topical sections on classification task; transport, environment, and energy; applied data mining; privacy and clustering; statistics in data science; health, software and smartphone; image data mining; industry showcase.

World Congress on Medical Physics and Biomedical Engineering May 26-31, 2012, Beijing, China - Mian Long 2013-02-11
The congress's unique structure represents the two dimensions of technology and medicine: 13 themes on science and medical technologies intersect with five challenging main topics of medicine to create a maximum of synergy and integration of aspects on research, development and application. Each of the congress themes was chaired by two leading experts. The themes address specific topics of medicine and technology that provide multiple and excellent opportunities for exchanges.

Introduction to Digital Image Processing - William K. Pratt 2013-09-13
The subject of digital image processing has migrated from a graduate to a junior or senior level course as students become more proficient in mathematical background earlier in their college education. With that in mind, Introduction to Digital Image Processing is simpler in terms of mathematical derivations and eliminates derivations of advanced s

Information and Communication Technology for Intelligent Systems - Tomonobu Senjyu 2020-10-21
This book gathers papers addressing state-of-the-art research in all areas of information and communication technologies and their applications in intelligent computing, cloud storage, data mining and software analysis. It presents the outcomes of the Fourth International Conference on Information and Communication Technology for Intelligent Systems, which was held in Ahmedabad, India. Divided into two volumes, the book discusses the fundamentals of various data analysis techniques and algorithms, making it a valuable resource for researchers and practitioners alike.

Visual Information and Information Systems - Stéphane Bres 2006-01-11
Comprises 25 revised full papers presented at the 8th International Conference on Visual Information Systems, VISUAL 2005, held in Amsterdam, The Netherlands in July 2005. These represent the current state of the art of visual information processing, feature extraction and aggregation at semantic level and content-based retrieval, as well as the study of user intention in query processing, and issues of delivery and consumption of multimedia content.

Adaptive Image Processing Algorithms for Printing - Ilia V. Safonov 2017-10-31
This book presents essential algorithms for the image processing pipeline of photo-printers and accompanying software tools, offering an exposition of multiple image enhancement algorithms, smart aspect-ratio changing techniques for borderless printing and approaches for non-standard printing modes. All the techniques described are content-adaptive and operate in an automatic mode thanks to machine learning reasoning or ingenious heuristics. The first part includes algorithms, for example, red-eye correction and compression artefacts reduction, that can be applied in any photo processing application, while the second part focuses specifically on printing devices, e.g. eco-friendly and anaglyph printing. The majority of the techniques presented have a low computational complexity because they were initially designed for integration in system-on-chip. The book reflects the authors' practical experience in algorithm development for industrial R&D.

Image Analysis and Processing - ICIAP 2017 - Sebastiano Battiato 2017-10-13
The two-volume set LNCS 10484 and 10485 constitutes the refereed proceedings of the 19th International Conference on Image Analysis and Processing, ICIAP 2017, held in Catania, Italy, in September 2017. The

138 papers presented were carefully reviewed and selected from 229 submissions. The papers cover both classic and the most recent trends in image processing, computer vision, and pattern recognition, addressing both theoretical and applicative aspects. They are organized in the following topical sections: video analysis and understanding; pattern recognition and machine learning; multiview geometry and 3D computer vision; image analysis, detection and recognition; multimedia; biomedical and assistive technology; information forensics and security; imaging for cultural heritage and archaeology; and imaging solutions for improving the quality of life.

Proceedings of the Seventh International Conference on Mathematics and Computing - Debasis Giri

Advances in Intelligent Analysis of Medical Data and Decision Support Systems - Roumen Kountchev 2013-02-11
This volume is a result of the fruitful and vivid discussions during the MedDecSup'2012 International Workshop bringing together a relevant body of knowledge, and new developments in the increasingly important field of medical informatics. This carefully edited book presents new ideas aimed at the development of intelligent processing of various kinds of medical information and the perfection of the contemporary computer systems for medical decision support. The book presents advances of the medical information systems for intelligent archiving, processing, analysis and search-by-content which will improve the quality of the medical services for every patient and of the global healthcare system. The book combines in a synergistic way theoretical developments with the practicability of the approaches developed and presents the last developments and achievements in medical informatics to a broad range of readers: engineers, mathematicians, physicians, and PhD students.

Advances in Computer Communication and Computational Sciences - Sanjiv K. Bhatia 2018-08-18
The book includes the insights that reflect 'Advances in Computer and Computational Sciences' from upcoming researchers and leading academicians across the globe. It contains the high-quality peer-reviewed papers of 'International Conference on Computer, Communication and Computational Sciences (IC4S 2017), held during 11–12 October, 2017 in Thailand. These papers are arranged in the form of chapters. The content of this book is divided into two volumes that cover variety of topics such as intelligent hardware and software design, advanced communications, intelligent computing techniques, intelligent image processing, and web and informatics. This book helps the perspective readers' from computer industry and academia to derive the advances of next generation computer and communication technology and shape them into real life applications.

Color Image and Video Enhancement - Emre Celebi 2015-09-16
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.

Quality, Reliability, Security and Robustness in Heterogeneous Networks - Karan Singh 2013-07-04
This book constitutes the thoroughly refereed post-conference proceedings of the 9th International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness, QShine 2013, which was held in National Capital Region (NCR) of India during January 2013. The 87 revised full papers were carefully selected from 169 submissions and present the recent technological developments in broadband high-speed networks, peer-to-peer networks, and wireless and mobile networks.

Smart Intelligent Computing and Applications - Suresh Chandra Satapathy 2019-10-03
This book presents high-quality papers from the Third International Conference on Smart Computing and Informatics (SCI 2018−19), organized by the School of Computer Engineering and School of Computer Application, Kalinga Institute of Industrial Technology Deemed to be University, Bhubaneswar, from 21 to 22 December 2018. It includes advanced and multi-disciplinary research on the design of smart computing and informatics, focusing on innovation paradigms in system knowledge, intelligence and sustainability that have the potential to provide realistic solutions to various problems in society, the environment and industry. The papers featured provide a valuable contribution to the deployment of emerging computational

and knowledge transfer approaches, optimizing solutions in varied disciplines of science, technology and health care.

Digital-Forensics and Watermarking - Yun-Qing Shi 2016-03-30
This book constitutes revised selected papers from the 14th International Workshop on Digital-Forensics and Watermarking, IWDW 2015, held in Tokyo, Japan, in October 2015. The 35 papers presented in this volume were carefully reviewed and selected from 54 submissions. The contributions are organized in topical sections named: digital forensics; steganography and steganalysis; digital watermarking; reversible data hiding; and visual cryptography.

Smart Energy and Advancement in Power Technologies - Kumari Namrata 2022-10-21
This book comprises peer-reviewed proceedings of the International Conference on Smart Energy and Advancement in Power Technologies (ICSEAPT-2021). The book includes peer-reviewed papers on renewable energy economics and policy, renewable energy resource assessment, operations management and sustainability, energy audit, global warming, waste and resource management, green energy deployment, green buildings, integration of green energy, energy efficiency, etc. The book serves as a valuable reference resource for academics and researchers across the globe.

Advances in Electrical Engineering and Computational Science - Len Gelman 2009-04-21
Advances in Electrical Engineering and Computational Science contains sixty-one revised and extended research articles written by prominent researchers participating in the conference. Topics covered include Control Engineering, Network Management, Wireless Networks, Biotechnology, Signal Processing, Computational Intelligence, Computational Statistics, Internet Computing, High Performance Computing, and industrial applications. Advances in Electrical Engineering and Computational Science will offer the state of art of tremendous advances in electrical engineering and computational science and also serve as an excellent reference work for researchers and graduate students working with/on electrical engineering and computational science.

Digital Image Processing with Application to Digital Cinema - K. Thyagarajan 2006
First Published in 2006. Routledge is an imprint of Taylor & Francis, an informa company.

Computer and Information Sciences -- ISCIS 2003 - Adnan Yazici 2003-10-24
This book constitutes the refereed proceedings of the 18th International Symposium on Computer and Information Sciences, ISCIS 2003, held in Antalya, Turkey in November 2003. The 135 revised papers presented together with 2 invited papers were carefully reviewed and selected from over 360 submissions. The papers are organized in topical sections on architectures and systems, theoretical computer science, databases and information retrieval, e-commerce, graphics and computer vision, intelligent systems and robotics, multimedia, networks and security, parallel and distributed computing, soft computing, and software engineering.

Computer and Cyber Security - Brij B. Gupta 2018-11-19
This is a monumental reference for the theory and practice of computer security. Comprehensive in scope, this text covers applied and practical elements, theory, and the reasons for the design of applications and security techniques. It covers both the management and the engineering issues of computer security. It provides excellent examples of ideas and mechanisms that demonstrate how disparate techniques and principles are combined in widely-used systems. This book is acclaimed for its scope, clear and lucid writing, and its combination of formal and theoretical aspects with real systems, technologies, techniques, and policies.

Computational Photography - Rastislav Lukac 2017-12-19
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.

Information Technology and Mobile Communication - Vinu V Das 2011-04-13
This book constitutes the refereed proceedings of the International Conference on Advances in Information Technology and Mobile Communication, AIM 2011, held at Nagpur, India, in April 2011. The 31 revised full papers presented together with 27 short papers and 34 poster papers were carefully reviewed and selected from 313 submissions. The papers cover all current issues in theory, practices, and applications of Information Technology, Computer and Mobile Communication Technology and related topics.

Computer Vision, Graphics and Image Processing - Prem Kalra 2007-01-01
This book constitutes the refereed proceedings of the Indian Conference on Computer Vision, Graphics and Image Processing, ICVGIP 2006, held in Madurai, India, December 2006. Coverage in this volume includes image restoration and super-resolution, image filtering, visualization, tracking and surveillance, face-, gesture-, and object-recognition, compression, content based image retrieval, stereo/camera calibration, and biometrics.

Computer Vision and Image Processing - Satish Kumar Singh 2021-03-27
This three-volume set (CCIS 1367-1368) constitutes the refereed proceedings of the 5th International Conference on Computer Vision and Image Processing, CVIP 2020, held in Prayagraj, India, in December 2020. Due to the COVID-19 pandemic the conference was partially held online. The 134 papers papers were carefully reviewed and selected from 352 submissions. The papers present recent research on such topics as biometrics, forensics, content protection, image enhancement/super-resolution/restoration, motion and tracking, image or video retrieval, image, image/video processing for autonomous vehicles, video scene understanding, human-computer interaction, document image analysis, face, iris, emotion, sign language and gesture recognition, 3D image/video processing, action and event detection/recognition, medical image and video analysis, vision-based human GAIT analysis, remote sensing, and more.

Critical Approaches to Information Retrieval Research - Sarfraz, Muhammad 2019-08-30
Information retrieval (IR) is considered to be the science of searching for information from a variety of information sources related to texts, images, sounds, or multimedia. With the rise of the internet and digital databases, updated information retrieval methodologies are essential to ensure the continued facilitation and enhancement of information exchange. Critical Approaches to Information Retrieval Research is a critical scholarly publication that provides multidisciplinary examinations of theoretical innovations and methods in information retrieval technologies including search and storage applications for data, text, image, sound, document, and video retrieval. Featuring a wide range of topics including data mining, machine learning, and ontology, this book is ideal for librarians, software engineers, data scientists, professionals, researchers, information engineers, scientists, practitioners, and academicians working in the fields of computer science, information technology, information and communication sciences, education, health, library, and more.

Telematics and Computing - Miguel Felix Mata-Rivera 2018-11-01
This book constitutes the thoroughly refereed proceedings of the 7th International Congress on Telematics and Computing, WITCOM 2018, held in Mazatlán, Mexico in November 2018. The 23 full papers presented in this volume were carefully reviewed and selected from 57 submissions. They present and organize the knowledge from within the field of telematics and security, data analytics and Machine Learning, IoT and mobile computing.

Digital Image Processing and Analysis - Scott E Umbaugh 2022-12-30
Digital Image Enhancement, Restoration and Compression focuses on human vision-based imaging application development. Examples include making poor images look better, the development of advanced compression algorithms, special effects imaging for motion pictures and the restoration of satellite images distorted by atmospheric disturbance. This book presents a unique engineering approach to the practice of digital imaging, which starts by presenting a global model to help gain an understanding of the overall process, followed by a breakdown and explanation of each individual topic. Topics are presented as they become necessary for understanding the practical imaging model under study, which provides the reader with the motivation to learn about and use the tools and methods being explored. The book includes chapters on imaging systems and software, the human visual system, image transforms, image filtering, image enhancement, image restoration, and image compression. Numerous examples, including over 700 color images, are used to illustrate the concepts discussed. Readers can explore their own application development with any programming language, including C/C++, MATLAB®, Python and R, and software is provided for both the Windows/C/C++ and MATLAB environments. The book can be used by the academic community in teaching and research, with over 1,000 PowerPoint slides and a complete solutions manual to the over 230 included problems. It can also be used for self-study by those involved with application development, whether they are engineers, scientists or artists. The new edition has been extensively updated and includes numerous problems and programming exercises that will help the reader and student develop their skills.

Handbook of Biological Confocal Microscopy - James Pawley 2013-04-17
This third edition of a classic text in biological microscopy includes detailed descriptions and in-depth comparisons of parts of the microscope itself, digital aspects of data acquisition and properties of fluorescent dyes, the techniques of 3D specimen preparation and the fundamental limitations, and practical complexities of quantitative confocal fluorescence imaging. Coverage includes practical multiphoton, photodamage and phototoxicity, 3D FRET, 3D microscopy correlated with micro-MNR, CARS, second and third harmonic signals, ion imaging in 3D, scanning RAMAN, plant specimens, practical 3D microscopy and correlated optical tomography.