

Chapter 11 Digital Image Processing Jensen

Digital Image Processing and Analysis Digital Image Processing: Part II Digital Image Compression Techniques Digital Image Compositing Fundamentals Beginning Digital Image Processing [Topology of Digital Images](#) Digital Image Processing Digital Image Forensics Principles of Digital Image Processing [Digital Photography](#) Digital Image Forensics Remote Sensing Digital Image Analysis [Applications of Digital Image Processing Fundamentals of Digital Imaging](#) [Digital Image Processing \(Maharashtra\)](#) Topological Algorithms for Digital Image Processing Digital Imaging for Photographers [Using iPhoto 11, Enhanced Edition](#) CNET's Guide to Digital Photography [Digital Image Processing](#) Introduction to Digital Image Processing Combinatorial Image Analysis Digital Image Processing The Complete Guide to Digital Imaging [Langford's Advanced Photography](#) Digital Image Processing for Medical Applications [Optical and Digital Image Processing](#) Digital Radiography and Pacs E-Book Delivering Digital Images Student Workbook for Frommer's Radiology for the Dental Professional - E-Book From Point to Pixel Digital Pictures Essentials of Digital Photography Advanced Photography Digital Image Processing for Ophthalmology The Essential Physics of Medical Imaging [Photo Forensics](#) Scientific and Technical Aerospace Reports Introductory Digital Image Processing [Photoshop Elements 11 Top 100 Simplified Tips and Tricks](#)

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Digital Image Processing: Part II Oct 04 2022

Topological Algorithms for Digital Image Processing Jul 21 2021 Basic topological algorithms are the subject of this new book. It presents their underlying theory and discusses their applications. Due to the wide variety of topics treated in the seven chapters, no attempt has been made to standardize the notation and terminology used by the authors. Each chapter, however, is self-contained and can be read independently of the others. Some of the basic terminology and fundamental concepts of digital topology are reviewed in the appendix which also describes important areas of the field. A bibliography of over 360 references is also provided. The notations and terminologies used in this book will serve to introduce readers to the even wider variety that exists in the voluminous literature dealing with topological algorithms.

Introduction to Digital Image Processing Feb 13 2021 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

Digital Image Compression Techniques Sep 03 2022 In order to utilize digital images effectively, specific techniques are needed to reduce the number of bits required for their representation. This Tutorial Text provides the groundwork for understanding these image compression techniques and presents a number of different schemes that have proven useful. The algorithms discussed in this book are concerned mainly with the compression of still-frame, continuous-tone, monochrome and color images, but some of the techniques, such as arithmetic coding, have found widespread use in the compression of bilevel images. Both lossless (bit-preserving) and lossy techniques are considered. A detailed description of the compression algorithm proposed as the world standard (the JPEG baseline algorithm) is provided. The book contains approximately 30 pages of reconstructed and error images illustrating the effect of each compression technique on a consistent image set, thus allowing for a direct comparison of bit rates and reconstructed image quality. For each algorithm, issues such as quality vs. bit rate, implementation complexity, and susceptibility to channel errors are considered.

[Langford's Advanced Photography](#) Oct 12 2020 Whether you're a serious enthusiast, a student or a training professional, this book covers it all; from genres, cameras, lenses, digital imaging sensors and films to insights into photography as an industry.

[Photo Forensics](#) Sep 30 2019 The first comprehensive and detailed presentation of techniques for authenticating digital images. Photographs have been doctored since photography was invented. Dictators have erased people from photographs and from history. Politicians have manipulated photos for short-term political gain. Altering photographs in the predigital era required time-consuming darkroom work. Today, powerful and low-cost digital technology makes it relatively easy to alter digital images, and the resulting fakes are difficult to detect. The field of photo forensics—pioneered in Hany Farid's lab at Dartmouth College—restores some trust to photography. In this book, Farid describes techniques that can be used to authenticate photos. He provides the intuition and background as well as the mathematical and algorithmic details needed to understand, implement, and utilize a variety of photo forensic techniques. Farid traces the entire imaging pipeline. He begins with the physics and geometry of the interaction of light with the physical world, proceeds through the way light passes through a camera lens, the conversion of light to pixel values in the electronic sensor, the packaging of the pixel values into a digital image file, and the pixel-level artifacts introduced by photo-editing software. Modeling the path of light during image creation reveals physical, geometric, and statistical regularities that are disrupted during the creation of a fake. Various forensic techniques exploit these irregularities to detect traces of tampering. A chapter of case studies examines the authenticity of viral video and famously questionable photographs including "Golden Eagle Snatches Kid" and the Lee Harvey Oswald backyard photo.

[Photoshop Elements 11 Top 100 Simplified Tips and Tricks](#) Jun 27 2019 Get the most out of Photoshop Elements 11 with this simplified guide If you already understand the basics of Photoshop Elements and are eager try out some unique tips and techniques, then you'll love this collection of 100 must-know tips and tricks. Two-page tutorials, full-color screen shots, and step-by-step instructions make it easy to see and follow the directions, helping you to get the very most from this top-selling image-editing software. This guide gets you up to speed on Photoshop Elements 11 and helps you expand your skill set with these best practices for getting the most out of the new version. Shares innovative techniques and unique tips for using the newest and coolest features found in the new Photoshop Elements 11 Explains techniques, best practices, and creative ways to transform your digital images from everyday to extraordinary Features beautiful photos and tips from an experienced photographer and author who shares his secrets on how to create memorable images Includes step-by-step instruction in a series of two-page, highly visual tutorials, with helpful, full-color screen shots on every page Take your image editing and Photoshop Elements skills to the next level with this practical guide.

Introductory Digital Image Processing Jul 29 2019

[Topology of Digital Images](#) May 31 2022 This book carries forward recent work on visual patterns and structures in digital images and introduces a near set-based a topology of digital images. Visual patterns arise naturally in digital images viewed as sets of non-abstract points endowed with some form of proximity (nearness) relation. Proximity relations make it possible to construct uniform topologies on the sets of points that constitute a digital image. In keeping with an interest in gaining an understanding of digital images themselves as a rich source of patterns, this book introduces the basics of digital images from a computer vision perspective. In parallel with a computer vision perspective on digital images, this book also introduces the basics of proximity spaces. Not only the traditional view of spatial proximity relations but also the more recent descriptive proximity relations are considered. The beauty of the descriptive proximity approach is that it is possible to discover visual set patterns among sets that are non-overlapping and non-adjacent spatially. By combining the spatial proximity and descriptive proximity approaches, the search for salient visual patterns in digital images is enriched, deepened and broadened. A generous provision of Matlab and Mathematica scripts are used in this book to lay bare the fabric and essential features of digital images for those who are interested in finding visual patterns in images. The combination of computer vision techniques and topological methods lead to a deep understanding of images.

From Point to Pixel Apr 05 2020 In this fiercely ambitious study, Meredith Anne Hoy seeks to reestablish the very definitions of digital art and aesthetics in art history. She begins by problematizing the notion of digital aesthetics, tracing the nineteenth- and twentieth-century movements that sought to break art down into its constituent elements, which in many ways predicted and paved the way for our acceptance of digital art. Through a series of case studies, Hoy questions the separation between analog and digital art and finds that while there may be sensual and experiential differences, they fall within the same technological categories. She also discusses computational art, in which the sole act of creation is the building of a self-generating algorithm. The medium isn't the message - what really matters is the degree to which the viewer can sense a creative hand in the art.

Advanced Photography Jan 03 2020 Advanced Photography is a practical book for students and serious enthusiasts who wish to achieve more professional looking results. From choosing lenses and camera equipment, to film types and technical data, lighting and tone control, processing management and colour printing; the book offers technical solutions and practical advice on all aspects of professional photography. The book has now been fully revised, to include not just the latest camera equipment and films, but explains how new digital methods can be used alongside silver halide systems - allowing the reader to benefit from the best practical features of each. Written as a companion volume to the international bestseller Basic Photography this book has enjoyed a long established reputation as a technical 'bible' for new professionals. It will appeal to anyone wishing to improve on their basic skills in practical photography - enabling you to achieve a higher standard of work and to deal more professionally with clients, agents and suppliers. The late Michael Langford was Former Photography Course Director at the Royal College of Art in London. He was intimately involved with photography courses at all levels and as a result fully understood what a student needed. His other books for Focal Press are: 'Basic Photography', 'Story of Photography' and 'Starting Photography'.

The Essential Physics of Medical Imaging Oct 31 2019 Developed from the authors' highly successful annual imaging physics review course, this new Second Edition gives readers a clear, fundamental understanding of the theory and applications of physics in radiology, nuclear medicine, and radiobiology. The Essential Physics of Medical Imaging, Second Edition provides key coverage of the clinical implications of technical principles—making this book great for board review. Highlights of this new edition include completely updated and expanded chapters and more than 960 illustrations. Major sections cover basic concepts, diagnostic radiology, nuclear medicine, and radiation protection, dosimetry, and biology. A Brandon-Hill recommended title.

Digital Image Processing (Maharashtra) Aug 22 2021 Digital Image Processing is specially meant for the students of BE/ B Tech/ ME and M Tech students of Electronics & Telecommunication, Electronics Engineering, Computer Science Engineering, and Information Technology. This book provides a lucid, comprehensive and state-of-the-art introduction to Digital Image Processing in a hardnosed style. Expounding knowledge for Programming in MATLAB software has been provided in the book to help the students to formulate their concept into realistic things.

Using iPhoto 11 Enhanced Edition May 19 2021 *** This USING iPhoto 2011 book is enhanced with over 2 hours of FREE step-by-step VIDEO TUTORIALS and AUDIO SIDEBARS! *** iPhoto is a popular software that allows you to view, edit, enhance, print, share, and create photo projects using your digital photos on your Mac. USING iPhoto 2011 is a media-rich learning experience designed to help new users master iPhoto 2011 quickly, and get the most out of it, fast! EVERY chapter has multiple video and audio files integrated into the learning material which creates interactive content that works together to teach everything mainstream iPhoto 2011 users need to know. You'll Learn How to: - Upgrade to iPhoto 2011 - Load, Organize, Edit, and Enhance Your Digital Photos - Create Online Galleries and Slide Shows - Print and Share Photos - Transfer Photos to Facebook - Back-up and Archive Images - Burn Photos to CD-ROM or DVD Examples of Topics Covered in VIDEO TUTORIALS, which Walk You Through Tasks You've Just Got to See! - Preview of Face Recognition Capabilities - Export an Entire Event or Album Folder - Create Photobook Examples of Topics Covered in AUDIO SIDEBARS, which Deliver Insights Straight From the Experts! - Keeping Your Camera and Lens Clean - Money Saving Tips - Other Options for Creating Slideshows Please note that due to the incredibly rich media included in your Enhanced eBook, you may experience longer download times. Please be patient while your product is delivered. This Enhanced eBook has been developed to match the Apple Enhanced eBook specifications for the iPad and may not render well on older iPhones or iPods or perform on other devices or reader applications.

Applications of Digital Image Processing Oct 24 2021

Student Workbook for Frommer's Radiology for the Dental Professional - E-Book May 07 2020 Hone your understanding of imaging concepts and techniques with the Student Workbook for Frommer's Radiology for the Dental Professional, 10th Edition. Coordinating step-by-step with the main text, this workbook offers the essential practice and review you need to master radiography concepts and learn to capture high-quality images. Activities and exercises — including new laboratory workshop activities and new ordering sequence questions — cover application, image assessment, image labeling, vocabulary, information recall, and more. It's the perfect hands-on practice tool to help you successfully support oral diagnosis and treatment planning. Correlation with the textbook makes your workbook experience seamless. Additional illustrations not found in the text provide practice with identification and interpretation. Perforated pages provide for on-the-go study or turn-in assignments. NEW! Content on digital imaging, radiation protection, and infection prevention has been added throughout the workbook. NEW! Practice questions and exercises aid in content recall and understanding. NEW! Clinical and radiographic images hone your interpretation and evaluation skills. NEW! Laboratory workshop activities promote assessment and skill-building. NEW! Ordering sequence questions reinforce your understanding of key skills and techniques.

Fundamentals of Digital Imaging Sep 22 2021 Introduction to digital imaging covering core techniques of image capture and display of monochrome and color images. Presents fundamental tools within a powerful mathematical framework. Containing illustrations, examples, and homework problems this book is suitable for advanced undergraduates and graduates in electrical engineering and computer science, and practitioners in industry.

Digital Image Processing Dec 14 2020 This authoritative text (the second part of a complete MSc course) provides mathematical methods required to describe images, image formation and different imaging systems, coupled with the principle techniques used for processing digital images. It is based on a course for postgraduates reading physics, electronic engineering, telecommunications engineering, information technology and computer science. This book relates the methods of processing and interpreting digital images to the 'physics' of imaging systems. Case studies reinforce the methods discussed, with examples of current research themes. Provides mathematical methods required to describe images, image formation and different imaging systems Outlines the principle techniques used for processing digital images Relates the methods of processing and interpreting digital images to the 'physics' of imaging systems

Digital Imaging for Photographers Jun 19 2021 CD-ROM contains: Selected images from text -- Animations -- Software.

Remote Sensing Digital Image Analysis Nov 24 2021 Remote Sensing Digital Image Analysis provides the non-specialist with a treatment of the quantitative analysis of satellite and aircraft derived remotely sensed data. Since the first edition of the book there have been significant developments in the algorithms used for the processing and analysis of remote sensing imagery; nevertheless many of the fundamentals have substantially remained the same. This new edition presents material that has retained value since those early days, along with new techniques that can be incorporated into an operational framework for the analysis of remote sensing data. The book is designed as a teaching text for the senior undergraduate and postgraduate student, and as a fundamental treatment for those engaged in research using digital image processing in remote sensing. The presentation level is for the mathematical non-specialist. Since the very great number of operational users of remote sensing come from the earth sciences communities, the text is pitched at a level commensurate with their background. Each chapter covers a different aspect of the analysis of digital remotely sensed data, without an excessively detailed mathematical treatment of computer based algorithms, but in a manner conducive to an understanding of their capabilities and limitations. Problems conclude each chapter.

Essentials of Digital Photography Feb 02 2020 Explains how to use Photoshop for digital image editing, including restoring old and damaged photographs, and manipulating original images

Digital Photography Jan 27 2022

Digital Pictures Mar 05 2020

Optical and Digital Image Processing Aug 10 2020 In recent years, Moore's law has fostered the steady growth of the field of digital image processing, though the computational complexity remains a problem for most of the digital image processing applications. In parallel, the research domain of optical image processing has matured, potentially bypassing the problems digital approaches were suffering and bringing new applications. The advancement of technology calls for applications and knowledge at the intersection of both areas but there is a clear knowledge gap between the digital signal processing and the optical processing communities. This book covers the fundamental basis of the optical and image processing techniques by integrating contributions from both optical and digital research communities to solve current application bottlenecks, and give rise to new applications and solutions. Besides focusing on joint research, it also aims at disseminating the knowledge existing in both domains. Applications covered include image restoration, medical imaging, surveillance, holography, etc... "a very good book that deserves to be on the bookshelf of a serious student or scientist working in these areas." Source: Optics and Photonics News

Scientific and Technical Aerospace Reports Aug 29 2019

Digital Image Forensics Dec 26 2021 This book discusses blind investigation and recovery of digital evidence left behind on digital devices, primarily for the purpose of tracing cybercrime sources and criminals. It presents an overview of the challenges of digital image forensics, with a specific focus on two of the most common forensic problems. The first part of the book addresses image source investigation, which involves mapping an image back to its camera source to facilitate investigating and tracing the source of a crime. The second part of the book focuses on image-forgery detection, primarily focusing on "copy-move forgery" in digital images, and presenting effective solutions to copy-move forgery detection with an emphasis on additional related challenges such as blur-invariance, similar genuine object identification, etc. The book concludes with future research directions, including counter forensics. With the necessary mathematical information in every chapter, the book serves as a useful reference resource for researchers and professionals alike. In addition, it can also be used as a supplementary text for upper-undergraduate and graduate-level courses on "Digital Image Processing", "Information Security", "Machine Learning", "Computer Vision" and "Multimedia Security and Forensics".

Digital Image Processing for Ophthalmology Dec 02 2019 The monitoring of the effects of retinopathy on the visual system can be assisted by analyzing the vascular architecture of the retina. This book presents methods based on Gabor filters to detect blood vessels in fundus images of the retina. Forty images of the retina from the Digital Retinal Images for Vessel Extraction (DRIVE) database were used to evaluate the performance of the methods. The results demonstrate high efficiency in the detection of blood vessels with an area under the receiver operating characteristic curve of 0.96. Monitoring the openness of the major temporal arcade (MTA) could facilitate improved diagnosis and optimized treatment of retinopathy. This book presents methods for the detection and modeling of the MTA, including the generalized Hough transform to detect parabolic forms. Results obtained with 40 images of the DRIVE database, compared with hand-drawn traces of the MTA, indicate a mean distance to the closest point of about 0.24mm. This book illustrates applications of the methods mentioned above for the analysis of the effects of proliferative diabetic retinopathy and retinopathy of prematurity on retinal vascular architecture.

The Complete Guide to Digital Imaging Nov 12 2020 Most books on digital imaging have followed the traditional imaging chain of input-manipulation-output. The Complete Guide to Digital Imaging argues that the digital designer will achieve better results by following the reverse sequence: output-manipulation-input. If artists know the final usage, they'll be spared the aggravation of scanning a photo at ultra-high resolution when all that's really needed is a 100-pixel animated gif. From providing tips on accurate previewing of images to clarifying color management systems and beyond, this valuable reference makes the complexities of digital imaging simple, understandable, and repeatable. Clear directions and hundreds of full-color illustrations demonstrate, step by step, how to achieve maximum results with minimum fuss—as well as get up and running quickly on image capture, image correction, output to print, and output to Web.

Combinatorial Image Analysis Jan 15 2021 This volume constitutes the refereed proceedings of the 11th International Workshop on Combinatorial Image Analysis, IWICIA 2006, held in Berlin, June 2006. The book presents 34 revised full papers together with two invited papers, covering topics including combinatorial image analysis; grammars and models for analysis and recognition of scenes and images; combinatorial topology and geometry for images; digital geometry of curves and surfaces; algebraic approaches to image processing, and more.

Beginning Digital Image Processing Jul 01 2022 Since the advent of digital photography, we have been able to post-process our pictures. However, to do it properly, we have to become digital art apprentices. Sebastian Montabone is a computer vision expert who wants us to use our cameras and image processing software to come up with works of art. In this book, he teaches image processing techniques of ascending difficulty based on freely available tools. The book teaches you to use the best tools for the job, and it focuses on the techniques, not the environments or toolchains in which they run. Also in this book, you'll learn about the Canon Hack Development Kit (CHDK), which expands the features of some cameras.

Digital Image Processing and Analysis Nov 05 2022 Computer Vision and Image Analysis, focuses on techniques and methods for image analysis and their use in the development of computer vision applications. The field is advancing at an ever increasing pace, with applications ranging from medical diagnostics to space exploration. The diversity of applications is one of the driving forces that make it such an exciting field to be involved in for the 21st century. This book presents a

unique engineering approach to the practice of computer vision and image analysis, 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 image systems and software, image analysis, edge, line and shape detection, image segmentation, feature extraction and pattern classification. Numerous examples, including over 500 color images are used to illustrate the concepts discussed. Readers can explore their own application development with any programming languages, 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 700 PowerPoint Slides and a complete Solutions Manual to the over 150 included problems. It can also be used for self-study by those involved with developing computer vision applications, 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 to develop their skills.

Principles of Digital Image Processing Feb 25 2022 This easy-to-follow textbook provides a modern, algorithmic introduction to digital image processing. It concentrates on practical applications and working implementations whilst also presenting important formal details and the necessary mathematics.

Digital Image Compositing Fundamentals Aug 02 2022 Digital Image Compositing Fundamentals is an introductory title covering concepts central to digital imagery and digital image compositing using software packages such as Adobe Photoshop or the open source GIMP software, which is used for this book because it is free for commercial use. This book builds on the fundamental concepts of pixels, color depth and layers, and gets more advanced as chapters progress, covering pixel transparency using the alpha channel, pixel blending using Porter-Duff blending and transfer modes, and digital image file formats and key factors regarding a data footprint optimization work process. **What You'll Learn:** What are the most common memes in digital imaging What comprises a digital image compositing pipeline What are the concepts behind digital imaging How to install and use GIMP 2.8 or 2.9 What are and how to use the concepts behind color depth and image optimization **Audience:** This book is for those new to image compositing, editing. Ideal for web developers, game developers who need to learn these kinds of fundamentals quickly and effectively.

Digital Image Processing for Medical Applications Sep 10 2020 Hands-on text for a first course aimed at end-users, focusing on concepts, practical issues and problem solving.

Digital Radiography and Pacs E-Book Jul 09 2020 Gain a full understanding of the basic principles and techniques of digital imaging! Using an easy-to-understand format and style, Digital Radiography and PACS, 4th Edition provides the latest information on digital imaging systems. It offers tips on producing clear radiographic images, and helps you build skills in computed radiography (CR) and digital radiography (DR), as well as picture archiving and communications systems (PACS).

Coverage also includes quality control and management guidelines for PACS, CR, and DR. Written by noted educators Christi Carter and Beth Veale, this book provides excellent preparation for the ARRT credentialing exam and for success as a practicing radiographer or technologist. Coverage of digital imaging and PACS is provided at the right level for student radiographers and for practicing technologists transitioning to digital imaging. Chapter outlines, learning objectives, and key terms at the beginning of each chapter introduce the chapter content, and help students organize study and boost their comprehension. More than 200 photographs and illustrations help to illuminate digital imaging concepts. Practical information addresses topics such as working with CR/DR workstations, including advanced image processing and manipulation functions; PACS workstations, archiving solutions, and system architectures; and effective techniques for digitizing film, printing images, and preparing image files. Bulleted summaries recap the main points of each chapter, ensuring that students focus on the most important concepts. Review questions at the end of chapters are linked to the chapter objectives and help students assess their understanding of the material, with answers provided to instructors on the Evolve website. **NEW!** Latest information on digital imaging systems includes computed radiography (CR), digital radiography (DR), and picture archiving and communications systems (PACS), as well as the data required by practicing technologists who are transitioning to digital imaging. **NEW!** Updates reflect the latest ARRT and ASRT content specifications. **NEW!** Full-color design is added to this edition.

Digital Image Forensics Mar 29 2022 Photographic imagery has come a long way from the pinhole cameras of the nineteenth century. Digital imagery, and its applications, develops in tandem with contemporary society's sophisticated literacy of this subtle medium. This book examines the ways in which digital images have become ever more ubiquitous as legal and medical evidence, just as they have become our primary source of news and have replaced paper-based financial documentation. Crucially, the contributions also analyze the very profound problems which have arisen alongside the digital image, issues of veracity and progeny that demand systematic and detailed response: It looks real, but is it? What camera captured it? Has it been doctored or subtly altered? Attempting to provide answers to these slippery issues, the book covers how digital images are created, processed and stored before moving on to set out the latest techniques for forensically examining images, and finally addressing practical issues such as courtroom admissibility. In an environment where even novice users can alter digital media, this authoritative publication will do much to stabilize public trust in these real, yet vastly flexible, images of the world around us.

CNET's Guide to Digital Photography Apr 17 2021

Delivering Digital Images Jun 07 2020 This pioneering two-year project explored the legal, technical, and practical issues involved in using digital images of museum collections for educational purposes. The report includes essays by project participants for the fourteen museums and universities that participated in this project, and recommends terms and conditions for distributing digital museum images via the Internet and university campus networks.

Digital Image Processing Mar 17 2021 This book offers readers an essential introduction to the fundamentals of digital image processing. Pursuing a signal processing and algorithmic approach, it makes the fundamentals of digital image processing accessible and easy to learn. It is written in a clear and concise manner with a large number of 4 x 4 and 8 x 8 examples, figures and detailed explanations. Each concept is developed from the basic principles and described in detail with equal emphasis on theory and practice. The book is accompanied by a companion website that provides several MATLAB programs for the implementation of image processing algorithms. The book also offers comprehensive coverage of the following topics: Enhancement, Transform processing, Restoration, Registration, Reconstruction from projections, Morphological image processing, Edge detection, Object representation and classification, Compression, and Color processing.

Digital Image Processing Apr 29 2022 This revised and expanded new edition of an internationally successful classic presents an accessible introduction to the key methods in digital image processing for both practitioners and teachers. Emphasis is placed on practical application, presenting precise algorithmic descriptions in an unusually high level of detail, while highlighting direct connections between the mathematical foundations and concrete implementation. The text is supported by practical examples and carefully constructed chapter-ending exercises drawn from the authors' years of teaching experience, including easily adaptable Java code and completely worked out examples. Source code, test images and additional instructor materials are also provided at an associated website. Digital Image Processing is the definitive textbook for students, researchers, and professionals in search of critical analysis and modern implementations of the most important algorithms in the field, and is also eminently suitable for self-study.