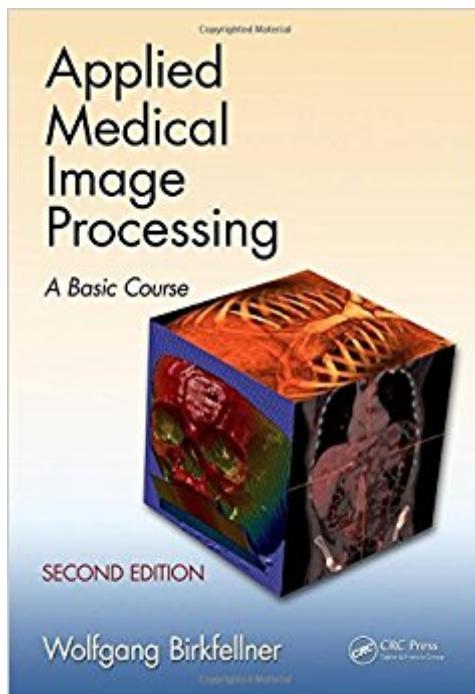The book was found

Applied Medical Image Processing, Second Edition: A Basic Course

Synopsis

A widely used, classroom-tested text, Applied Medical Image Processing: A Basic Course delivers an ideal introduction to image processing in medicine, emphasizing the clinical relevance and special requirements of the field. Avoiding excessive mathematical formalisms, the book presents key principles by implementing algorithms from scratch and using simple MATLABÂ®/Octave scripts with image data and illustrations on an accompanying CD-ROM or companion website. Organized as a complete textbook, it provides an overview of the physics of medical image processing and discusses image formats and data storage, intensity transforms, filtering of images and applications of the Fourier transform, three-dimensional spatial transforms, volume rendering, image registration, and tomographic reconstruction. This Second Edition of the bestseller: Contains two brand-new chapters on clinical applications and image-guided therapy Devotes more attention to the subject of color space Includes additional examples from radiology, internal medicine, surgery, and radiation therapy Incorporates freely available programs in the public domain (e.g., GIMP, 3DSlicer, and ImageJ) when applicable Beneficial to students of medical physics, biomedical engineering, computer science, applied mathematics, and related fields, as well as medical physicists, radiographers, radiologists, and other professionals, Applied Medical Image Processing: A Basic Course, Second Edition is fully updated and expanded to ensure a perfect blend of theory and practice.

Book Information

Hardcover: 455 pages

Publisher: CRC Press; 2 edition (March 6, 2014)

Language: English

ISBN-10: 1466555572

ISBN-13: 978-1466555570

Product Dimensions: 10.1 x 7 x 1 inches

Shipping Weight: 2.4 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars   1 customer review

Best Sellers Rank: #391,054 in Books (See Top 100 in Books)   #34 inÂ Books > Computers & Technology > Graphics & Design > Computer Modelling > Imaging Systems   #130 inÂ Books > Engineering & Transportation > Engineering > Bioengineering > Biomedical Engineering   #255 inÂ Books > Textbooks > Medicine & Health Sciences > Medicine > Clinical > Diagnosis

Customer Reviews

"â | very well constructed and extremely useful within its stated scope. The completeness of the treatment of topics, combined with the MATLAB examples of individual functions, is impressive. Examples are explained in great detail, with the command-line code presented, and explained, piece by piece. A student, or anyone else needing to develop image processing functions, will find this book very functional and valuable, both as a textbook and a self-contained reference."â •Computing in Science & Engineering, July/August 2015 "The book is practical and accessible and has limited formalism. I do not know of any other books with this approach for medical image processing."â •Professor Amir A. Amini, University of Louisville, Kentucky, USA"â | a very useful book in an area that needs ongoing information transfer."â •Professor Robert L. Galloway, Vanderbilt University, Nashville, Tennessee, USA "I mention the book every time I meet someone who asks what the best way is to get into this field."â •Professor Leo Joskowicz, Head of Computer-Assisted Surgery and Medical Image Processing Laboratory, The Hebrew University of Jerusalem, Israel"The strengths of the book are undulated â • it is an exceptionally useful, practical, and approachable tool for teaching medical image computing to undergraduate students."â •Professor Gabor Fichtinger, Queenâ ™s University, Kingston, Ontario, Canada Praise for the First Edition:"The topics covered are clearly explained, including explanations of the mathematical operations that are required, therefore making it an ideal text for anyone who is new to medical image processing. â | an interesting and helpful introduction to medical image processing. â | This text is likely to be of interest to students starting work in medical image processing and would be a useful library text for hospital departments offering training in medical imaging."â •Sarah Cade, Scope, December 2011 "The book â | achieves its purpose very well. â | The CD adds substantial value to the text and serves as an excellent guide to practice the information covered in the text. â | Several books on image processing have been published recently, and this book takes a backseat to none of them. â | Students who take a course where this book is used as the course text will be fortunate indeed."â •William Hendee, Medical Physics, Vol. 37, December 2010 "â | an outstanding work that will be of interest to virtually all biomedical engineers. The text is easy to follow, supposing only that the reader has a modest knowledge of linear algebra, basic engineering principles, and computer programming. I was impressed by the content as well as by the amount of information that is packed on each page. In each well-organized chapter, important concepts and definitions are described concisely and well. Relevant medical images used for processing complement many of the concepts discussed. Where important, the mathematical formulation is provided. The text and images refer to several MATLAB-based programming examples that are provided at the end of each chapter. These are useful to apply the

concepts to actual medical image processing. The book can be used in part as an excellent reference work for biomedical engineers, scientists, and clinicians. This is a well-written, coherent, and comprehensive work covering the major topics in the field, suitable as a standalone text â | . The book is enjoyable to read, and students and professionals will not be bored when doing so. Engineers and scientists will find useful coverage of the field, and students will find the entire volume to be filled with important information."â •Edward J. Ciaccio, Columbia University, New York, USA, BioMedical Engineering OnLine, 2011 "I have found this book very useful â | . It is comprehensive and well written."â •Professor Terry Peters, Robarts Research Institute, University of Western Ontario, London, Ontario, Canada "This is a lucid, well-written, and hands-on textbook that explains in simple terms and with examples the basic issues of medical image processing. It contains many examples and useful programs."â •Professor Leo Joskowicz, Head of Computer-Assisted Surgery and Medical Image Processing Laboratory, The Hebrew University of Jerusalem, Israel "The plethora of examples in each chapter â | allows the reader to apply the theory and visually assess the outcomes. This book is a perfect blend of theory and practice. I highly recommend it."â •Dr. Pascal Fallavollita, Technical University of Munich, Germany "â | significant and timely. It provides a cogent, not overly simplified, not excessively mathematical treatise of basic principles that the student, trainee, young scientist, and junior practitioner can readily grasp and apply. â | will help facilitate the ongoing, almost magical evolution of modem medical imaging â | they who read this book will be able to make 'a truly useful picture'."â •From the Foreword by Richard A. Robb, Ph.D, Mayo Medical School, Rochester, Minnesota, USA

Wolfgang Birkfellner studied theoretical physics at, and holds a Ph.D in medical physics from, the University of Vienna, Austria. Currently, he is heading the Digital Image Processing Laboratory at the Center for Biomedical Engineering and Physics at the Medical University of Vienna. He is also a reviewer and editorial board member for major journals in the field, program committee member for international conferences, and principal investigator for several third-party funded research projects. Previously, he served as senior researcher at the University Hospital Basel/Switzerland and associate professor of medical physics at the Center for Biomedical Engineering and Physics of Vienna Medical School.

Trying to keep up with all the developments in any field is difficult these days. This book gives a good overview of the latest developments in imaging in medicine, thank you.

Applied Medical Image Processing, Second Edition: A Basic Course Imagery and Disease: Image-Ca, Image-Sp, Image-Db : A Diagnostic Tool for Behavioral Medicine The Body Image Workbook for Teens: Activities to Help Girls Develop a Healthy Body Image in an Image-Obsessed World Medical Terminology: Medical Terminology Easy Guide for Beginners (Medical Terminology, Anatomy and Physiology, Nursing School, Medical Books, Medical School, Physiology, Physiology) Medical Terminology: Medical Terminology Made Easy: Breakdown the Language of Medicine and Quickly Build Your Medical Vocabulary (Medical Terminology, Nursing School, Medical Books) Biosignal and Medical Image Processing, Third Edition Image Makers, Image Takers (Second Edition) Digital Image Processing for Medical Applications A Computational Introduction to Digital Image Processing, Second Edition Alfred's Basic Adult All-in-One Course, Book 1: Learn How to Play Piano with Lesson, Theory and Technic (Alfred's Basic Adult Piano Course) Alfred's Basic Group Piano Course, Bk 1: A Course Designed for Group Instruction Using Acoustic or Electronic Instruments (Alfred's Basic Piano Library) Applied Fourier Analysis: From Signal Processing to Medical Imaging Marks' Basic Medical Biochemistry (Lieberman, Marks's Basic Medical Biochemistry) The Patient's Medical Journal: Record Your Personal Medical History, Your Family Medical History, Your Medical Visits & Treatment Plans American Medical Association Complete Medical Encyclopedia (American Medical Association (Ama) Complete Medical Encyclopedia) Architectural Photography, 3rd Edition: Composition, Capture, and Digital Image Processing Introductory Digital Image Processing (3rd Edition) Introductory Digital Image Processing: A Remote Sensing Perspective (4th Edition) (Pearson Series in Geographic Information Science) Healing your self image after herpes: Clear away shame to reclaim a vibrant, confident beautiful and loving self image! (Guides Book 1) The Photographers Guide to Image Sharpening in Lightroom: Professional Image Sharpening & Noise Reduction Techniques using Adobe Lightroom