Handbook of Medical Image Processing and Analysis. Edition No. 2

Description: The Handbook of Medical Image Processing and Analysis is a comprehensive compilation of concepts and techniques used for processing and analyzing medical images after they have been generated or digitized. The Handbook is organized into six sections that relate to the main functions: enhancement, segmentation, quantification, registration, visualization, and compression, storage and communication.

The second edition is extensively revised and updated throughout, reflecting new technology and research, and includes new chapters on: higher order statistics for tissue segmentation; tumor growth modeling in oncological image analysis; analysis of cell nuclear features in fluorescence microscopy images; imaging and communication in medical and public health informatics; and dynamic mammogram retrieval from web-based image libraries.

For those looking to explore advanced concepts and access essential information, this second edition of Handbook of Medical Image Processing and Analysis is an invaluable resource. It remains the most complete single volume reference for biomedical engineers, researchers, professionals and those working in medical imaging and medical image processing.

Dr. Isaac N. Bankman is the supervisor of a group that specializes on imaging, laser and sensor systems, modeling, algorithms and testing at the Johns Hopkins University Applied Physics Laboratory. He received his BSc degree in Electrical Engineering from Bogazici University, Turkey, in 1977, the MSc degree in Electronics from University of Wales, Britain, in 1979, and a PhD in Biomedical Engineering from the Israel Institute of Technology, Israel, in 1985. He is a member of SPIE.

Includes contributions from internationally renowned authors from leading institutions.

NEW! 35 of 56 chapters have been revised and updated. Additionally, five new chapters have been added on important topics including Nonlinear 3D Boundary Detection, Adaptive Algorithms for Cancer Cytological Diagnosis, Dynamic Mammogram Retrieval from Web-Based Image Libraries, Imaging and Communication in Health Informatics and Tumor Growth Modeling in Oncological Image Analysis.

Provides a complete collection of algorithms in computer processing of medical images.

Contents:
- Fundamental Enhancement Techniques
- Adaptive Image Filtering
- Enhancement by Multiscale Nonlinear Operators
- Medical Image Enhancement with Hybrid Filters
- Overview and Fundamentals of Medical Image Segmentation
- Image Segmentation by Fuzzy Clustering: Methods and Issues
- Segmentation with Neural Networks
- Deformable Models
- Shape Information in Deformable Models
- Gradient Vector Flow Deformable Models
- Fully Automated Hybrid Segmentation of the Brain
- Unsupervised Tissue Classification
- Partial Volume Segmentation with Voxel Histograms
- Higher Order Statistics for Tissue Segmentation
- Two-dimensional Shape and Texture Quantification
- Texture Analysis in Three Dimensions for Tissue Characterization
- Computational Neuroanatomy Using Shape Transformations
- Tumor Growth Modeling in Oncological Image Analysis
- Arterial Tree Morphometry
- Image-Based Computational Biomechanics of the Musculoskeletal System
- Three-Dimensional Bone Angle Quantification
- Database Selection and Feature Extraction for Neural Networks
- Quantitative Image Analysis for Estimation of Breast Cancer Risk
- Classification of Breast Lesions in Mammograms
Quantitative Analysis of Cardiac Function
Image Processing and Analysis in Tagged Cardiac MRI
Analysis of Cell Nuclear Features in Fluorescence Microscopy Images
Image Interpolation and Resampling
Physical Basis of Spatial Distortions in Magnetic Resonance Images
Physical and Biological Bases of Spatial Distortions in PET Images
Biological Underpinnings of Anatomic Consistency and Variability in the Human Brain
Spatial Transformation Models
Validation of Registration Accuracy
Landmark-based Registration Using Features Identified through Differential Geometry
Image Registration Using Chamfer Matching
Within-Modality Registration Using Intensity-Based Cost Functions
Across-Modality Registration Using Intensity-Based Cost Functions
Talairach Space as a Tool for Intersubject Standardization in the Brain
Warping Strategies for Intersubject Registration
Optimizing the Resampling of Registered Images
Clinical Applications of Image Registration
Registration for Image-Guided Surgery
Image Registration and the Construction of Multidimensional Brain Atlases
Visualization Pathways in Biomedicine
Three-Dimensional Visualization in Medicine and Biology
Volume Visualization in Medicine
Fast Isosurface Extraction Methods for Large Image Data Sets
Computer Processing Methods for Virtual Endoscopy
Fundamentals and Standards of Compression and Communication
Medical Image Archive and Retrieval
Image Standardization in PACS
Imaging and Communication in Medical and Public Health Informatics
Dynamic Mammogram Retrieval from Web-Based Image Libraries
Quality Evaluation for Compressed Medical Images: Fundamentals
Quality Evaluation for Compressed Medical Images: Diagnostic Accuracy
Quality Evaluation for Compressed Medical Images: Statistical Issues
Three-Dimensional Image Compression with Wavelet Transforms

Ordering:
Order Online - http://www.researchandmarkets.com/reports/1762590/
Order by Fax - using the form below
Order by Post - print the order form below and send to
Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Handbook of Medical Image Processing and Analysis. Edition No. 2
Web Address: http://www.researchandmarkets.com/reports/1762590/
Office Code: SCAYPEQP

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>USD 185 + USD 28 Shipping/Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back)</td>
<td>☐</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

<table>
<thead>
<tr>
<th>Title:</th>
<th>Mr ☐</th>
<th>Mrs ☐</th>
<th>Dr ☐</th>
<th>Miss ☐</th>
<th>Ms ☐</th>
<th>Prof ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Address: *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Title:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postal / Zip Code:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fax Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

- Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

- Pay by check: Please post the check, accompanied by this form, to:

  Research and Markets,
  Guinness Center,
  Taylors Lane,
  Dublin 8,
  Ireland.

- Pay by wire transfer: Please transfer funds to:

  Account number 833 130 83
  Sort code 98-53-30
  Swift code ULSBIE2D
  IBAN number IE78ULSB98533083313083
  Bank Address Ulster Bank,
  27-35 Main Street,
  Blackrock,
  Co. Dublin,
  Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: 

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:

(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World