

Image Analysis — From Theory to Applications

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About the Book

Image analysis is a scientific discipline providing theoretical foundations and methods for solving problems that appear in various areas of human practice, as diverse as medicine, robotics, defense, and security. The review process of the chapters in this volume was quite rigorous, as each chapter underwent three to four double-blind reviews. The selection criteria included: relevance to the topics, correctness, originality, clarity, presentation quality, and overall score received. As a result, high-quality chapters are included in this volume.

Topics Covered

● Object Detection

Windowpane Detection Based on Maximum A Posteriori Probability Labeling
 Finding Optimal Non-Overlapping Subset of Extracted Image Objects
 Extraction of Handwritten and Signature Regions from Binary Printed Documents
 A Robust Extension of the Mean Shift Algorithm
 Electronic Multimedia Dictionary with Direct-Access Printed Interface

● From Theory to Applications

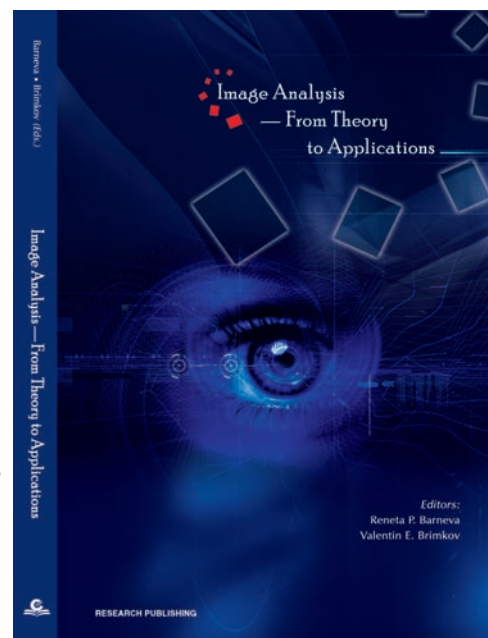
Recognizability of Iso-Picture Languages by Wang Systems
 Computing Surfaces via pq-Permutations
 Variational Method on Discrete Ricci Flow
 A Linear Time Connected Component Labeling Algorithm in Quadrees
 Neighborhood Sequences in the Diamond Grid
 Three Dimensional Objects in Four Dimensional Digital Spaces
 3-Dimensional Rectangular Array Acceptors and Learning
 Distributional Characteristics of Random Convex Sets
 A Generic Feature Subset Selection Model for Large Feature Set Problems
 Design and Implementation of High Speed Arithmetic Coder
 Architecture of JPEG2000 on Reconfigurable FPGA

● Motion Detection

Motion Analysis Using Dynamic Texture in Crowd Environment
 Producing Stylized Renderings Using the AVP Rendering Tool
 Extracting Semantic Video Object Using Morphology Watershed Algorithm
 Complex Motion Separation and Recognition Using Directional Motion Templates

● Medical Applications

Brain CT Image Feature Extraction Using Nonnegative Tensor Factorization
 A Theoretical Solution to Partial Volume MAP-EM Tissue Mixture Segmentation for CT/MRI Imaging Modalities
 Iris Recognition based on Genetic Algorithms and Multi-Class Gaussian Mixture Model
 Optimal Features Selection and Classification for Iris Recognition
 Driver's Drowsiness Detection System for Ivl Vehicle
 Volumetric Object Reconstruction Using Generalized Voxel Coloring



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http://www.rpsonline.com.sg/books/imageanalysis_cont.html

Readership: Researchers, engineers, programmers in computer vision, image processing and computer graphics.

