

Contents

1	Medical Image Segmentation: A Brief Survey	1
	Ahmed Elnakib, Georgy Gimel'farb, Jasjit S. Suri, and Ayman El-Baz	
2	Cerebral White Matter Segmentation using Probabilistic Graph Cut Algorithm	41
	Mainak Sen, Ashish K. Rudra, Ananda S. Chowdhury, Ahmed Elnakib, and Ayman El-Baz	
3	A New Image-Based Framework for Analyzing Cine Images	69
	Fahmi Khalifa, Garth M. Beache, Georgy Gimel'farb, Guruprasad A. Giridharan, and Ayman El-Baz	
4	Medical Images Segmentation Using Learned Priors	99
	Ayman El-Baz and Georgy Gimel'farb	
5	Classification of Breast Mass in Mammography with an Improved Level Set Segmentation by Combining Morphological Features and Texture Features	119
	Jinshan Tang and Xiaoming Liu	
6	Segmentation and Skeletonization of 3D Contrast Enhanced Ultrasound Images for the Characterization of Single Thyroid Nodule	137
	Filippo Molinari, Alice Mantovani, Maurilio Deandrea, Paolo Limone, Rajendra Acharya U, Roberto Garberoglio, and Jasjit S. Suri	
7	Shape-Based Detection of Cortex Variability for More Accurate Discrimination Between Autistic and Normal Brains	161
	Matthew Nitzken, Manuel F. Casanova, Fahmi Khalifa, Guela Sokhadze, and Ayman El-Baz	

8	Surface Reconstruction and Geometric Modeling for Digital Prosthesis Design	187
	Luiz C.M. de Aquino, Gilson A. Giraldi, Paulo S.S. Rodrigues, Antônio Lopes A. Junior, Jaime S. Cardoso, and Jasjit S. Suri	
9	Medical Image Registration	227
	Usaf E. Aladl and Terry Peters	
10	Robust Image Registration Based on Learning Prior Appearance Model	247
	Ayman El-Baz and Georgy Gimel'farb	
11	Image Registration in Medical Imaging: Applications, Methods, and Clinical Evaluation	263
	Gerardo Hermosillo, Christophe Chef'd'hotel, K.-H. Herrmann, Guillaume Bousquet, Luca Bogoni, Kallol Chaudhuri, Dorothee R. Fischer, Christian Geppert, Rolf Janka, Arun Krishnan, Berthold Kiefer, Ines Krumbein, Werner Kaiser, Michael Middleton, Wanmei Ou, Jürgen R. Reichenbach, Marcos Salganicoff, Melanie Schmitt, Evelyn Wenkel, Susanne Wurdinger, and Li Zhang	
12	The Applications of Feature-Based Image Metamorphosis and Eyelashes Removal in the Investigations of Ocular Thermographic Sequences	315
	Jen Hong Tan, E.Y.K. Ng, Rajendra Acharya U, and Jasjit S. Suri	
13	Segmentation-Assisted Registration for Brain MR Images	335
	Jundong Liu	
	About the Editors	355
	Index	357

Multi Modality State-of-the-Art Medical Image
Segmentation and Registration Methodologies
Volume II

El-Baz, A.S.; Acharya U, R.; Laine, A.F.; Suri, J. (Eds.)

2011, X, 368 p., Hardcover

ISBN: 978-1-4419-8203-2