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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Brain Disease Classification and Progression using Machine Learning Techniques -- The Role of Content-Based Image Retrieval in Mammography CAD -- A Novel Image-based Approach for Early Detection of Prostate Cancer using DCE-MRI -- Computational Intelligent Image Analysis for Assisting Radiation Oncologists' Decision Making in Radiation Treatment Planning -- Computational Anatomy in the Abdomen: Automated Multi-Organ and Tumor Analysis from Computed Tomography -- Liver Volumetry in MRI by using Fast Marching Algorithm Coupled with 3D Geodesic Active Contour Segmentation -- Computer-aided Image Analysis for Vertebral Anatomy on X-ray CT Images -- Robust Segmentation of Challenging Lungs in CT using Multi-Stage Learning and Level Set Optimization -- Bone Suppression in Chest Radiographs by Means of Anatomically Specific Multiple Massive-Training ANNs Combined with Total Variation Minimization Smoothing and Consistency Processing -- Image Segmentation for Connectomics using Machine Learning -- Image Analysis Techniques for the Quantification of Brain Tumors on MR Images -- Respiratory and Cardiac Function Analysis on the Basis of

	Dynamic Chest Radiography -- Adaptive Noise Reduction and Edge Enhancement in Medical Images by using ICA -- Subtraction Techniques for CT and DSA and Automated Detection of Lung Nodules in 3D CT.
Sommario/riassunto	This book provides a comprehensive overview of the state-of-the-art computational intelligence research and technologies in biomedical images with emphasis on biomedical decision making. Biomedical imaging offers useful information on patients' medical conditions and clues to causes of their symptoms and diseases. Biomedical images, however, provide a large number of images which physicians must interpret. Therefore, computer aids are demanded and become indispensable in physicians' decision making. This book discusses major technical advancements and research findings in the field of computational intelligence in biomedical imaging, for example, computational intelligence in computer-aided diagnosis for breast cancer, prostate cancer, and brain disease, in lung function analysis, and in radiation therapy. The book examines technologies and studies that have reached the practical level, and those technologies that are becoming available in clinical practices in hospitals rapidly such as computational intelligence in computer-aided diagnosis, biological image analysis, and computer-aided surgery and therapy.