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Nota di contenuto	Intro -- Title -- Preface -- Organization -- Table of Contents -- CT Colonography CAD -- Electronic Cleansing in CT Colonography: Past, Present, and Future -- Introduction -- Fecal-Tagging CTC -- Early Work of EC -- Current Status of EC -- Future Challenges of EC -- Conclusion -- References -- Improved Curvature Estimation for Shape Analysis in Computer-Aided Detection of Colonic Polyps -- Purpose -- Methods -- Kernel Methods for Principal Curvature Estimation -- Knutsson Mapping Method -- Results -- Conclusion -- References --

Characterizing Colonic Detections in CT Colonography Using Curvature-Based Feature Descriptor and Bag-of-Words Model -- Introduction -- Methods -- Curvature-Based Feature Descriptor -- Bag-of-Words (BoW) Model -- Content-Based Image Retrieval (CBIR) -- Experiments and Results -- Phantom Experiments -- CTC Experiments -- Discussion and Conclusion -- References -- Haustral Fold Segmentation of CT Colonography Using Ridge Line Detection -- Purpose -- Methods -- Colon Surface Extraction -- Ridge Line Detection -- Fold Segmentation -- Results -- Conclusion -- References -- Recent Advances in Reduction of False Positives in Computerized Detection of Polyps in CT Colonography -- Introduction -- Classes of FP Reduction Techniques -- Feature-Based Classifiers -- Pixel-Based Machine Learning (PML) -- Non-machine-Learning-Based Methods -- Reduction of Specific Type of FP -- FP Reduction with MTANNs -- CTC Database -- Evaluation -- Conclusion -- References -- A Bayesian Approach for False Positive Reduction in CTC CAD -- Introduction -- Method -- Modeling the Likelihood Term -- Experimental Results and Discussion -- Conclusion -- References -- False-Positive Reduction in Computer-Aided Detection of Polyps in CT Colonography: A Massive-Training Support Vector Regression Approach -- Introduction.
Massive-Training Support Vector Regression (MTSVR) -- Architecture and Training of MTSVR -- Support Vector Regression (SVR) -- CTC Database and Evaluation -- Results -- Conclusion -- References -- Learning to Detect 3D Rectal Tubes in CT Colonography Using a Global Shape Model -- Introduction -- Method -- Overview -- Probabilistic Models for 2D Candidate Detection of RT Regions -- RT Path Estimation Using a Global Shape Model -- Results -- Discussion and Conclusion -- References -- Abdominal Imaging -- Estimation of Necrosis Volumes in Focal Liver Lesions Based on Multi-phase Hepatic CT Images -- Introduction -- Methods -- Registration -- Blood-Flow Estimation -- Segmentation -- Results -- Conclusion -- References -- Detection of the Invasion of Bladder Tumor into Adjacent Wall Based on Textural Features Extracted from MRI Images -- Introduction -- Materials and Method -- Subjects and MRI Datasets -- Overview of the Detection Scheme -- Selection of Textural Features -- Extraction of Textural Features -- Training and Evaluation of the SVM Classifier -- Tissue Labeling for the Detection of Invasion Depth -- Results -- Conclusions -- References -- Detecting Bladder Abnormalities Based on Inter-layer Intensity Curve for Virtual Cystoscopy -- Introduction -- Methods -- Bladder Wall Segmentation -- Bladder Wall Layer Generation -- ILIC Generation -- Result and Discussion -- Conclusion -- References -- Computer-Assisted Diagnosis for Quantitative Image-Based Analysis of Crohn's Disease in CT Enterography -- Introduction -- Method -- Clinical CT Enterography Cases -- CADx Scheme -- Evaluation Methodology -- Results -- Conclusion -- References -- Computer-Aided Detection of Small Bowel Strictures for Emergency Radiology in CT Enterography -- Introduction -- Method -- CAD Scheme -- Clinical CT Enterography Cases -- Results.
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Sommario/riassunto

This book constitutes the thoroughly refereed post-conference proceedings of the International Workshop on Computational Challenges and Clinical Opportunities in Virtual Colonoscopy and Abdominal Imaging, held in conjunction with MICCAI 2010, in Beijing, China, on September 20, 2010. The 19 revised full papers presented were carefully reviewed and selected from 26 submissions. The papers are organized in topical sections on CT colonography CAD, abdominal imaging, and virtual colonoscopy.