## **Table of Contents**

## CT Colonography CAD

Electronic Cleansing in CT Colonography: Past, Present, and Future  Wenli Cai and Hiroyuki Yoshida	1
Improved Curvature Estimation for Shape Analysis in Computer-Aided Detection of Colonic Polyps	9
Characterizing Colonic Detections in CT Colonography Using Curvature-Based Feature Descriptor and Bag-of-Words Model	15
Haustral Fold Segmentation of CT Colonography Using Ridge Line  Detection	24
Recent Advances in Reduction of False Positives in Computerized  Detection of Polyps in CT Colonography  Kenji Suzuki	32
A Bayesian Approach for False Positive Reduction in CTC CAD  Xujiong Ye, Gareth Beddoe, and Greg Slabaugh	40
False-Positive Reduction in Computer-Aided Detection of Polyps in CT Colonography: A Massive-Training Support Vector Regression Approach	47
Learning to Detect 3D Rectal Tubes in CT Colonography Using a Global Shape Model	53
Abdominal Imaging	
Estimation of Necrosis Volumes in Focal Liver Lesions Based on Multi-phase Hepatic CT Images	60
Detection of the Invasion of Bladder Tumor into Adjacent Wall Based on Textural Features Extracted from MRI Images Zhide Wu, Zhengxing Shi, Guopeng Zhang, and Hongbing Lu	68



Detecting Bladder Abnormalities Based on Inter-layer Intensity Curve for Virtual Cystoscopy	76
Fanghua Liu, Chaijie Duan, Kehong Yuan, Zhengrong Liang, and Shanglian Bao	•
Computer-Assisted Diagnosis for Quantitative Image-Based Analysis of Crohn's Disease in CT Enterography	84
Computer-Aided Detection of Small Bowel Strictures for Emergency Radiology in CT Enterography	91
Virtual Colonoscopy	
Teniae Coli Extraction in Human Colon for Computed Tomographic Colonography Images	98
Extraction of Landmarks and Features from Virtual Colon Models Krishna Chaitanya Gurijala, Arie Kaufman, Wei Zeng, and Xianfeng Gu	105
Conformal Geometry Based Supine and Prone Colon Registration Wei Zeng, Joseph Marino, Xianfeng Gu, and Arie Kaufman	113
Colon Visualization Using Shape Preserving Flattening	120
Synchronized Display of Virtual Colonoscopic Views in Supine and Prone CT Images	126
Colorectal Polyp Segmentation Based on Geodesic Active Contours with a Shape-Prior Model	134
Author Index	141