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# Medical Computer Vision

Large Data in Medical Imaging

Third International MICCAI Workshop, MCV 2013  
Nagoya, Japan, September 26, 2013  
Revised Selected Papers

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# Preface

This book includes articles from the 2013 MICCAI (Medical Image Computing for Computer-Assisted Intervention) workshop on Medical Computer Vision (MCV) that was held on September 26, 2013, in Nagoya, Japan. The workshop followed up on similar events in the past years held in conjunction with MICCAI and CVPR.

The workshop received 25 high-quality submissions that were all reviewed by at least three external reviewers. Borderline papers were further reviewed by the organizers to obtain the most objective decisions for the final paper selection. Seven papers (28%) were accepted as oral presentations and another 12 (48%) as posters including a short presentation. The review process was double blind.

In addition to the accepted oral presentations and posters, the workshop had two invited speakers. Leo Grady of HeartFlow Inc., USA, discussed the challenge of employing segmentation routines in real clinical settings, addressing the problem of cardiac CT analysis. He stressed that segmentation routines should not remain in academic settings but should be evaluated for their impact in real applications, as small differences in the segmentation can sometimes lead to totally differing decisions. Then, Ron Kikinis of Harvard Medical School presented an overview of the development of the medical imaging community. He used the 3D Slicer software as an example and showed how the impact of methods increases when they can easily be modified by other researchers.

The award for the best paper was sponsored by Siemens Corporate Technology. It was given to Stefan Bauer et al., who presented the paper “Integrated Spatio-temporal Segmentation of Longitudinal Brain Tumour Imaging Studies.” In particular the longitudinal nature of the analysis and the detailed evaluation of the automatic segmentation over time were considered important.

In general, the workshop resulted in many lively discussions and showed well the current trends and tendencies in medical computer vision and how the techniques can be used in clinical work. These proceedings start with a short overview of the topics that were discussed during the workshop as well as the discussions that took place during the sessions, followed by the 19 accepted papers of the workshop and two invited and reviewed papers that were presented in the “VISCERAL Challenge Session” – describing the segmentation task and data set of the VISCERAL benchmark challenge.

We would like to thank all the reviewers who helped in selecting high-quality papers for the workshop and the authors for submitting and presenting high-quality research all of which made MICCAI-MCV 2013 a great success. We plan to organize a similar workshop in next year's MICCAI conference in Boston.

November 2013

Bjoern Menze  
Georg Langs  
Albert Montillo  
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# Contents

## Workshop Overview

Overview of the 2013 Workshop on Medical Computer Vision (MCV 2013) . . .	3
<i>Henning Müller, Bjoern H. Menze, Georg Langs, Albert Montillo, B. Michael Kelm, Zhuowen Tu, and Óscar Alfonso Jiménez del Toro</i>	

## Registration and Visualization

Semi-supervised Learning of Nonrigid Deformations for Image Registration . . .	13
<i>John A. Onofrey, Lawrence H. Staib, and Xenophon Papademetris</i>	
Local Regression Learning via Forest Classification for 2D/3D Deformable Registration . . . . .	24
<i>Chen-Rui Chou and Stephen Pizer</i>	
Flexible Architecture for Streaming and Visualization of Large Virtual Microscopy Images . . . . .	34
<i>Germán Corredor, Marcela Iregui, Viviana Arias, and Eduardo Romero</i>	
2D-PCA Shape Models: Application to 3D Reconstruction of the Human Teeth from a Single Image . . . . .	44
<i>Aly S. Abdelrehim, Aly A. Farag, Ahmed M. Shalaby, and Moumen T. El-Melegy</i>	
Class-Specific Regression Random Forest for Accurate Extraction of Standard Planes from 3D Echocardiography. . . . .	53
<i>Kiryl Chykeyuk, Mohammad Yaqub, and J. Alison Noble</i>	

## Segmentation

Accurate Whole-Brain Segmentation for Alzheimer’s Disease Combining an Adaptive Statistical Atlas and Multi-atlas . . . . .	65
<i>Zhennan Yan, Shaoting Zhang, Xiaofeng Liu, Dimitris N. Metaxas, Albert Montillo, and The Australian Imaging Biomarkers and Lifestyle Flagship Study of Ageing</i>	
Integrated Spatio-Temporal Segmentation of Longitudinal Brain Tumor Imaging Studies . . . . .	74
<i>Stefan Bauer, Jean Tessier, Oliver Krieter, Lutz-P. Nolte, and Mauricio Reyes</i>	



Robust Mixture-Parameter Estimation for Unsupervised Segmentation of Brain MR Images . . . . .	84
<i>Alfiia Galimzianova, Žiga Špiclin, Boštjan Likar, and Franjo Pernuš</i>	
White Matter Supervoxel Segmentation by Axial DP-Means Clustering . . . .	95
<i>Ryan P. Cabeen and David H. Laidlaw</i>	
Semantic Context Forests for Learning-Based Knee Cartilage Segmentation in 3D MR Images . . . . .	105
<i>Quan Wang, Dijia Wu, Le Lu, Meizhu Liu, Kim L. Boyer, and Shaohua Kevin Zhou</i>	
<b>Detection and Localization</b>	
Local Phase-Based Fast Ray Features for Automatic Left Ventricle Apical View Detection in 3D Echocardiography. . . . .	119
<i>João S. Domingos, Eduardo Lima, Paul Leeson, and J. Alison Noble</i>	
Automatic Aorta Detection in Non-contrast 3D Cardiac CT Images Using Bayesian Tracking Method . . . . .	130
<i>Mingna Zheng, J. Jeffery Carr, and Yaorong Ge</i>	
Organ Localization Using Joint AP/LAT View Landmark Consensus Detection and Hierarchical Active Appearance Models . . . . .	138
<i>Qi Song, Albert Montillo, Roshni Bhagalia, and V. Srikrishnan</i>	
Pectoral Muscle Detection in Digital Breast Tomosynthesis and Mammography . . . . .	148
<i>Florin C. Ghesu, Michael Wels, Anna Jerebko, Michael Sühling, Joachim Hornegger, and B. Michael Kelm</i>	
<b>Features and Retrieval</b>	
Computer Aided Diagnosis Using Multilevel Image Features on Large-Scale Evaluation . . . . .	161
<i>Le Lu, Pandu Devarakota, Siddharth Vikal, Dijia Wu, Yefeng Zheng, and Matthias Wolf</i>	
Shape Curvature Histogram: A Shape Feature for Celiac Disease Diagnosis. . .	175
<i>Michael Gadermayr, Michael Liedlgruber, Andreas Uhl, and Andreas Vécsei</i>	
2D-Based 3D Volume Retrieval Using Singular Value Decomposition of Detected Regions . . . . .	185
<i>Alba García Seco de Herrera, Antonio Foncubierta-Rodríguez, Emanuele Schiavi, and Henning Müller</i>	

Feature Extraction with Intrinsic Distortion Correction in Celiac Disease Imagery: No Need for Rasterization . . . . .	196
<i>Michael Gadermayr, Andreas Uhl, and Andreas Vécsei</i>	
A Novel Shape Feature Descriptor for the Classification of Polyps in HD Colonoscopy . . . . .	205
<i>Michael Häfner, Andreas Uhl, and Georg Wimmer</i>	
<b>VISCERAL Session</b>	
Multi-structure Atlas-Based Segmentation Using Anatomical Regions of Interest . . . . .	217
<i>Óscar Alfonso Jiménez del Toro and Henning Müller</i>	
Using Probability Maps for Multi-organ Automatic Segmentation . . . . .	222
<i>Ranveer Joyseeree, Óscar Alfonso Jiménez del Toro, and Henning Müller</i>	
<b>Author Index</b> . . . . .	229