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	Nota di contenuto	Preface -- Workshop Organization -- Segmentation I (CT): Segmentation of vertebrae from 3D spine images by applying concepts from transportation and game theories, by Bulat Ibragimov, Bostjan Likar, Franjo Pernus, Tomaž Vrtovec -- Automatic and Reliable Segmentation of Spinal Canals in Low-Resolution, Low-Contrast CT Images, by Qian Wang, Le Lu, Diji Wu, Noha El-Zehiry, Dinggang Shen, Kevin Zhou -- A Robust Segmentation Framework for Spine Trauma Diagnosis, by Poay Hoon Lim, Ulas Bagci, Li Bai -- 2D-PCA based Tensor Level Set Framework for Vertebral Body Segmentation, by Ahmed Shalaby, Aly Farag, Melih Aslan -- Computer Aided Detection and Diagnosis: Computer Aided Detection of Spinal Degenerative Osteophytes on Sodium Fluoride PET/CT, by Jianhua Yao, Hector Munoz , Joseph Burns, Le Lu, Ronald Summers -- Novel Morphological and Appearance Features for Predicting Physical Disability from MR Images

in Multiple Sclerosis Patients, by Jeremy Kawahara, Chris McIntosh, Roger Tam, Ghassan Hamarneh -- Classification of Spinal Deformities using a Parametric Torsion Estimator, by Jesse Shen, Stefan Parent, Samuel Kadoury -- Lumbar Spine Disc Herniation Diagnosis with a Joint Shape Model, by Raja Alomari, Vipin Chaudhary, Jason Corso, Gurmeet Dhillon -- Epidural Masses Detection on Computed Tomography Using Spatially-Constrained Gaussian Mixture Models, by Sanket Pattanaik, Jiamin Liu, Jianhua Yao, Weidong Zhang, Evrim Turkbey, Xiao Zhang, Ronald Summers -- Quantitative Imaging: Comparison of manual and computerized measurements of sagittal vertebral inclination in MR images, by Tomaž Vrtovec, Franjo Pernus, Bostjan Likar -- Eigenspine: Eigenvector Analysis of Spinal Deformities in Idiopathic Scoliosis, by Daniel Forsberg, Claes Lundström, Mats Andersson, Hans Knutsson -- Quantitative Monitoring of Syndesmophyte Growth in Ankylosing Spondylitis Using Computed Tomography, by Sovira Tan, Jianhua Yao, Lawrence Yao, Michael Ward -- A Semi-automatic Method for the Quantification of Spinal Cord Atrophy, by Simon Pezold, Michael Amann, Katrin Weier, Ketut Fundana, Ernst Radue, Till Sprenger, Philippe Cattin -- Segmentation II (MR): Multi-modal vertebra segmentation from MR Dixon in hybrid whole-body PET/MR, by Christian Buerger, Jochen Peters, Irina Waechter-Stehle, Frank Weber, Tobias Klinder, Steffen Renisch -- Segmentation of intervertebral discs from high-resolution 3D MRI using multi-level statistical shape models, by Ales Neubert, Jurgen Fripp, Craig Engstrom, Stuart Crozier -- A supervised approach towards segmentation of clinical MRI for automatic lumbar diagnosis, by Subarna Ghosh, Manavender Malgireddy, Vipin Chaudhary, Gurmeet Dhillon -- Registration/Labeling: Automatic Segmentation and Discrimination of Connected Joint Bones from CT by Multi-atlas Registration, by Tristan Whitmarsh, Graham Treece, Kenneth Poole -- Registration of MR to Percutaneous Ultrasound of the Spine for Image-Guided Surgery, by Lars Eirik Bø, Rafael Palomar, Tormod Selbekk, Ingerid Reinertsen -- Vertebrae Detection and Labelling in Lumbar MR Images, by Meelis Lootus, Timor Kadir, Andrew Zisserman.

Sommario/riassunto	This book contains the full papers presented at the MICCAI 2013 workshop Computational Methods and Clinical Applications for Spine Imaging. The workshop brought together researchers representing several fields, such as Biomechanics, Engineering, Medicine, Mathematics, Physics and Statistic. The works included in this book present and discuss new trends in those fields, using several methods and techniques in order to address more efficiently different and timely applications involving signal and image acquisition, image processing and analysis, image segmentation, image registration and fusion, computer simulation, image based modelling, simulation and surgical planning, image guided robot assisted surgical and image based diagnosis.