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Note generali	Includes index.
Nota di contenuto	rain MR Image Segmentation in Small Dataset with Adversarial Defense and Task Reorganization -- Spatial Regularized Classification Network for Spinal Dislocation Diagnosis -- Globally-Aware Multiple Instance Classifier for Breast Cancer Screening -- Advancing Pancreas Segmentation in Multi-protocol MRI Volumes using Hausdorff-Sine Loss Function -- WSI-Net: Branch-based and Hierarchy-aware Network for Segmentation and Classification of Breast Histopathological Whole-slide Images -- Lesion Detection with Deep Aggregated 3D Contextual Feature and Auxiliary Information -- MSAFusionNet: Multiple Subspace Attention Based Deep Multi-modal Fusion Network -- DCCL: A Benchmark for Cervical Cytology Analysis -- Smartphone-Supported Malaria Diagnosis Based on Deep Learning -- Children's Neuroblastoma Segmentation using Morphological Features -- GFD Faster R-CNN: Gabor Fractal DenseNet Faster R-CNN for automatic detection of esophageal abnormalities in endoscopic images -- Deep Active Lesion Segmentation -- Infant Brain Deformable Registration Using Global and

Local Label-Driven Deep Regression Learning -- A Relation Hashing Network Embedded with Prior Features for Skin Lesion Classification -- End-to-End Adversarial Shape Learning for Abdomen Organ Deep Segmentation -- Privacy-preserving Federated Brain Tumour Segmentation -- Residual Attention Generative Adversarial Networks for Nuclei Detection on Routine Colon Cancer Histology Images -- Semi-Supervised Multi-Task Learning With Chest X-Ray Images -- Novel Bi-directional Images Synthesis based on WGAN-GP with GMM-based Noise Generation -- Pseudo-labeled bootstrapping and multi-stage transfer learning for the classification and localization of dysplasia in Barrett's Esophagus -- Anatomy-Aware Self-supervised Fetal MRI Synthesis from Unpaired Ultrasound Images -- Boundary Aware Networks for Medical Image Segmentation -- Automatic Rodent Brain MRI Lesion Segmentation with Fully Convolutional Networks -- Morphological Simplification of Brain MR Images by Deep Learning for Facilitating Deformable Registration -- Joint Shape Representation and Classification for Detecting PDAC -- FusionNet: Incorporating Shape and Texture for Abnormality Detection in 3D Abdominal CT Scans -- Weakly supervised segmentation by a deep geodesic prior -- Ultrasound Liver Fibrosis Diagnosis using Multi-indicator guided Deep Neural Networks -- Correspondence-Steered Volumetric Descriptor Learning Using Deep Functional Maps -- Sturm: Sparse Tubal-Regularized Multilinear Regression for fMRI -- Improving Whole-Brain Neural Decoding of fMRI with Domain Adaptation -- Automatic Couinaud Segmentation from CT Volumes on Liver Using GLC-Unet -- Biomedical Image Segmentation by Retina-like Sequential Attention Mechanism Using Only A Few Training Images -- Conv-MCD: A Plug-and-Play Multi-task Module for Medical Image Segmentation -- Detecting abnormalities in resting-state dynamics: An unsupervised learning approach -- Distanced LSTM: Time-Distanced Gates in Long Short-Term Memory Models for Lung Cancer Detection -- Dense-residual Attention Network for Skin Lesion Segmentation -- Confounder-Aware Visualization of ConvNets -- Detecting Lesion Bounding Ellipses With Gaussian Proposal Networks -- Modelling Airway Geometry as Stock Market Data using Bayesian Change point Detection -- Unsupervised Lesion Detection with Locally Gaussian Approximation -- A Hybrid Multi-atrous and Multi-scale Network for Liver Lesion Detection -- BOLD fMRI-based Brain Perfusion Prediction Using Deep Dilated Wide Activation Networks -- Jointly Discriminative and Generative Recurrent Neural Networks for Learning from fMRI -- Unsupervised Conditional Consensus Adversarial Network for Brain Disease Identification with Structural MRI -- A Maximum Entropy Deep Reinforcement Learning Neural Tracker -- Weakly Supervised Confidence Learning for Brain MR Image Dense Parcellation -- Select, Attend, and Transfer: Light, Learnable Skip Connections -- Learning-based Bone Quality Classification Method for Spinal Metastasis -- Automated Segmentation of Skin Lesion Based on Pyramid Attention Network -- Relu cascade of feature pyramid networks for CT pulmonary nodule detection -- Joint Localization of Optic Disc and Fovea in Ultra-Widefield Fundus Images -- Multi-Scale Attentional Network for Multi-Focal Segmentation of Active Bleed after Pelvic Fractures -- Lesion Detection by Efficiently Bridging 3D Context -- Communal Domain Learning for Registration in Drifted Image Spaces -- Conv2Warp: An unsupervised deformable image registration with continuous convolution and warping -- Semantic filtering through deep source separation on microscopy images -- Adaptive Functional Connectivity Network using Parallel Hierarchical BiLSTM for MCI Diagnosis -- Multi-Template based Auto-weighted Adaptive Structural

Learning for ASD Diagnosis -- Learn to Step-wise Focus on Targets for Biomedical Image Segmentation -- Renal Cell Carcinoma Staging with Learnable Image Histogram-based Deep Neural Network -- Weakly Supervised Learning Strategy for Lung Defect Segmentation -- Gated Recurrent Neural Networks for Accelerated Ventilation MRI -- A Cascaded Multi-Modality Analysis in Mild Cognitive Impairment -- Deep Residual Learning for Instrument Segmentation in Robotic Surgery -- Deep learning model integrating dilated convolution and deep supervision for brain tumor segmentation in multi-parametric MRI -- A joint 3D UNet-Graph Neural Network-based method for Airway Segmentation from chest CTs -- Automatic Fetal Brain Extraction Using Multi-Stage U-Net with Deep Supervision -- Cross-Modal Attention-Guided Convolutional Network for Multi-Modal Cardiac Segmentation -- High- and Low-Level Feature Enhancement for Medical Image Segmentation -- Shape-Aware Complementary-Task Learning for Multi-Organ Segmentation -- An Active Learning Approach for Reducing Annotation Cost in Skin Lesion Analysis -- Tree-LSTM: Using LSTM to Encode Memory in Anatomical Tree Prediction from 3D Images -- FAIM-A ConvNet Method for Unsupervised 3D Medical Image Registration -- Functional data and long short-term memory networks for diagnosis of Parkinson's Disease -- Joint Holographic Detection and Reconstruction -- Reinforced Transformer for Medical Image Captioning -- Multi Task Convolutional Neural Network for Joint Bone Age Assessment and Ossification Center Detection from Hand Radiograph.

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#### Sommario/riassunto

This book constitutes the proceedings of the 10th International Workshop on Machine Learning in Medical Imaging, MLMI 2019, held in conjunction with MICCAI 2019, in Shenzhen, China, in October 2019. The 78 papers presented in this volume were carefully reviewed and selected from 158 submissions. They focus on major trends and challenges in the area, aiming to identify new-cutting-edge techniques and their uses in medical imaging. Topics dealt with are: deep learning, generative adversarial learning, ensemble learning, sparse learning, multi-task learning, multi-view learning, manifold learning, and reinforcement learning, with their applications to medical image analysis, computer-aided detection and diagnosis, multi-modality fusion, image reconstruction, image retrieval, cellular image analysis, molecular imaging, digital pathology, etc. .

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