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Note generali	Includes index.
Nota di contenuto	Neuroimage Reconstruction and Synthesis -- Isotropic MRI Super-Resolution Reconstruction with Multi-Scale Gradient Field Prior -- A Two-Stage Multi-Loss Super-Resolution Network For Arterial Spin Labeling Magnetic Resonance Imaging -- Model Learning: Primal Dual Networks for Fast MR imaging -- Model-based Convolutional De-Aliasing Network Learning for Parallel MR Imaging -- Joint Reconstruction of PET + Parallel-MRI in a Bayesian Coupled-Dictionary MRF Framework -- Deep Learning Based Framework for Direct Reconstruction of PET Images -- Nonuniform Variational Network: Deep Learning for Accelerated Nonuniform MR Image Reconstruction -- Reconstruction of Isotropic High-Resolution MR Image from Multiple

Anisotropic Scans using Sparse Fidelity Loss and Adversarial Regularization -- Single Image Based Reconstruction of High Field-like MR Images -- Deep Neural Network for QSM Background Field Removal -- RinQ Fingerprinting: Recurrence-informed Quantile Networks for Magnetic Resonance Fingerprinting -- RCA-U-Net: Residual Channel Attention U-Net for Fast Tissue Quantification in Magnetic Resonance Fingerprinting -- GANReDL: Medical Image enhancement using a generative adversarial network with real-order derivative induced loss functions -- Generation of 3D Brain MRI Using Auto-Encoding Generative Adversarial Networks -- Semi-Supervised VAE-GAN for Out-of-Sample Detection Applied to MRI Quality Control -- Disease-Image Specific Generative Adversarial Network for Brain Disease Diagnosis with Incomplete Multi-Modal Neuroimages -- Predicting the Evolution of White Matter Hyperintensities in Brain MRI using Generative Adversarial Networks and Irregularity Map -- CoCa-GAN: Common-feature-learning-based Context-aware Generative Adversarial Network for Glioma Grading -- Degenerative Adversarial NeuroImage Nets: Generating Images that Mimic Disease Progression -- Neuroimage Segmentation -- Scribble-based Hierarchical Weakly Supervised Learning for Brain Tumor Segmentation -- 3D Dilated Multi-Fiber Network for Real-time Brain Tumor Segmentation in MRI -- Refined-Segmentation R-CNN: A Two-stage Convolutional Neural Network for Punctate White Matter Lesion Segmentation in Preterm Infants -- VoteNet: A Deep Learning Label Fusion Method for Multi-Atlas Segmentation -- Weakly Supervised Brain Lesion Segmentation via Attentional Representation Learning -- Scalable Neural Architecture Search for 3D Medical Image Segmentation -- Unified Attentional Generative Adversarial Network for Brain Tumor Segmentation From Multimodal Unpaired Images -- High Resolution Medical Image Segmentation using Data-swapping Method -- X-Net: Brain Stroke Lesion Segmentation Based on Depthwise Separable Convolution and Long-range Dependencies -- Multi-View Semi-supervised 3D Whole Brain Segmentation with a Self-Ensemble Network -- CLCI-Net: Cross-Level Fusion and Context Inference Networks for Lesion Segmentation of Chronic Stroke -- Brain Segmentation from k-space with End-to-end Recurrent Attention Network -- Spatial Warping Network for 3D Segmentation of the Hippocampus in MR Images -- CompareNet: Anatomical Segmentation Network with Deep Non-local Label Fusion -- A Joint 3D+2D Fully Convolutional Framework for Subcortical Segmentation -- U-ReSNet: Ultimate coupling of Registration and Segmentation with deep Nets -- Generative adversarial network for segmentation of motion affected neonatal brain MRI -- Interactive deep editing framework for medical image segmentation -- Multiple Sclerosis Lesion Segmentation with Tiramisu and 2.5D Stacked Slices -- Improving Multi-Atlas Segmentation by Convolutional Neural Network Based Patch Error Estimation -- Unsupervised deep learning for Bayesian brain MRI segmentation -- Online atlasng using an iterative centroid -- ARS-Net: Adaptively Rectified Supervision Network for Automated 3D Ultrasound Image Segmentation -- Complete Fetal Head Compounding from Multi-View 3D Ultrasound -- SegNAS3D: Network Architecture Search with Derivative-Free Global Optimization for 3D Image Segmentation -- Overfitting of neural nets under class imbalance: Analysis and improvements for segmentation -- RSANet: Recurrent Slice-wise Attention Network for Multiple Sclerosis Lesion Segmentation -- Deep Cascaded Attention Networks for Multi-task Brain Tumor Segmentation -- Partially Reversible U-Net for Memory-Efficient Volumetric Image Segmentation -- 3DQ: Compact Quantized Neural Networks for Volumetric Whole Brain Segmentation -- Robust

Multimodal Brain Tumor Segmentation via Feature Disentanglement and Gated Fusion -- Multi-task Attention-based Semi-supervised Learning for Medical Image Segmentation -- AssemblyNet: A Novel Deep Decision-Making Process for Whole Brain MRI Segmentation -- Automated Parcellation of the Cortex using Structural Connectome Harmonics -- Hierarchical parcellation of the cerebellum -- Intrinsic Patch-based Cortical Anatomical Parcellation using Graph Convolutional Neural Network on Surface Manifold -- Cortical Surface Parcellation using Spherical Convolutional Neural Networks -- A Soft STAPLE Algorithm Combined with Anatomical Knowledge -- Diffusion Weighted Magnetic Resonance Imaging -- Multi-Stage Image Quality Assessment of Diffusion MRI via Semi-Supervised Nonlocal Residual Networks -- Reconstructing High-Quality Diffusion MRI Data from Orthogonal Slice-Undersampled Data Using Graph Convolutional Neural Networks -- Surface-based Tracking of U-fibers in the Superficial White Matter -- Probing Brain Micro-Architecture by Orientation Distribution Invariant Identification of Diffusion Compartments -- Characterizing Non-Gaussian Diffusion in Heterogeneously Oriented Tissue Microenvironments -- Topographic Filtering of Tractograms as Vector Field Flows -- Enabling Multi-Shell b-Value Generalizability of Data-Driven Diffusion Models with Deep SHORE -- Super-Resolved q-Space Deep Learning -- Joint Identification of Network Hub Nodes by Multivariate Graph Inference -- Deep white matter analysis: fast, consistent tractography segmentation across populations and dMRI acquisitions -- Improved Placental Parameter Estimation Using Data-Driven Bayesian Modelling -- Optimal experimental design for biophysical modelling in multidimensional diffusion MRI -- DeepTract: A Probabilistic Deep Learning Framework for White Matter Fiber Tractography -- Fast and Scalable Optimal Transport for Brain Tractograms -- A hybrid deep learning framework for integrated segmentation and registration: evaluation on longitudinal white matter tract changes -- Constructing Consistent Longitudinal Brain Networks by Group-wise Graph Learning -- Functional Neuroimaging (fMRI) -- Multi-layer temporal network analysis reveals increasing temporal reachability and spreadability in the first two years of life -- A matched filter decomposition of fMRI into resting and task components -- Identification of Abnormal Circuit Dynamics in Major Depressive Disorder via Multiscale Neural Modeling of Resting-state fMRI -- Integrating Functional and Structural Connectivities via Diffusion-Convolution-Bilinear Neural Network -- Invertible Network for Classification and Biomarker Selection for ASD -- Integrating Neural Networks and Dictionary Learning for Multidimensional Clinical Characterizations from Functional Connectomics Data -- Revealing Functional Connectivity by Learning Graph Laplacian -- Constructing Multi-Scale Connectome Atlas by Learning Common Topology of Brain Networks -- Autism Classification Using Topological Features and Deep Learning: A Cautionary Tale -- Identify Hierarchical Structures from Task-based fMRI Data via Hybrid Spatiotemporal Neural Architecture Search Net -- A Deep Learning Framework for Noise Component Detection from Resting-state Functional MRI -- A Novel Graph Wavelet Model for Brain Multi-Scale Functional-structural Feature Fusion -- Combining Multiple Behavioral Measures and Multiple Connectomes via Multiway Canonical Correlation Analysis -- Decoding brain functional connectivity implicated in AD and MCI -- Interpretable Feature Learning Using Multi-Output Takagi-Sugeno-Kang Fuzzy System for Multi-center ASD Diagnosis -- Interpretable Multimodality Embedding Of Cerebral Cortex Using Attention Graph Network For Identifying Bipolar Disorder -- Miscellaneous Neuroimaging -- Doubly Weak Supervision

of Deep Learning Models for Head CT -- Detecting Acute Strokes from Non-Contrast CT Scan Data Using Deep Convolutional Neural Networks -- FocusNet: Imbalanced Large and Small Organ Segmentation with an End-to-End Deep Neural Network for Head and Neck CT Images -- Regression-based Line Detection Network for Delineation of Largely Deformed Brain Midline -- Siamese U-Net with Healthy Template for Accurate Segmentation of Intracranial Hemorrhage -- Automated Infarct Segmentation from Follow-up Non-Contrast CT Scans in Patients with Acute Ischemic Stroke Using Dense Multi-Path Contextual Generative Adversarial Network -- Recurrent sub-volume analysis of head CT scans for the detection of intracranial hemorrhage -- Cephalometric Landmark Detection by Attentive Feature Pyramid Fusion and Regression-Voting.

Sommario/riassunto

The six-volume set LNCS 11764, 11765, 11766, 11767, 11768, and 11769 constitutes the refereed proceedings of the 22nd International Conference on Medical Image Computing and Computer-Assisted Intervention, MICCAI 2019, held in Shenzhen, China, in October 2019. The 539 revised full papers presented were carefully reviewed and selected from 1730 submissions in a double-blind review process. The papers are organized in the following topical sections: Part I: optical imaging; endoscopy; microscopy. Part II: image segmentation; image registration; cardiovascular imaging; growth, development, atrophy and progression. Part III: neuroimage reconstruction and synthesis; neuroimage segmentation; diffusion weighted magnetic resonance imaging; functional neuroimaging (fMRI); miscellaneous neuroimaging. Part IV: shape; prediction; detection and localization; machine learning; computer-aided diagnosis; image reconstruction and synthesis. Part V: computer assisted interventions; MIC meets CAI. Part VI: computed tomography; X-ray imaging.
