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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Computed Tomography -- Multi-Scale Coarse-to-Fine Segmentation for Screening Pancreatic Ductal Adenocarcinoma -- MVP-Net: Multi-view FPN with Position-aware Attention for Deep Universal Lesion Detection -- Spatial-Frequency Non-Local Convolutional LSTM Network for pRCC classification -- BCD-Net for Low-dose CT Reconstruction: Acceleration, Convergence, and Generalization -- Abdominal Adipose Tissue Segmentation in MRI with Double Loss Function Collaborative Learning -- Closing the Gap between Deep and Conventional Image Registration using Probabilistic Dense Displacement Networks -- Generating Pareto optimal dose distributions for radiation therapy

treatment planning -- PAN: Projective Adversarial Network for Medical Image Segmentation -- Generative Mask Pyramid Network for CT/CBCT Metal Artifact Reduction with Joint Projection-Sinogram Correction -- Multi-Class Gradient Harmonized Dice Loss with Application to Knee MR Image Segmentation -- LSRC: A Long-Short Range Context-Fusing Framework for Automatic 3D Vertebra Localization -- Contextual Deep Regression Network for Volume Estimation in Orbital CT -- Multi-scale GANs for Memory-efficient Generation of High Resolution Medical Images -- Deep Learning based Metal Artifacts Reduction in post-operative Cochlear Implant CT Imaging -- ImHistNet: Learnable Image Histogram Based DNN with Application to Noninvasive Determination of Carcinoma Grades in CT Scans -- DPA-DenseBiasNet: Semi-supervised 3D Fine Renal Artery Segmentation with Dense Biased Network and Deep Prior Anatomy -- Semi-supervised Segmentation of Liver Using Adversarial Learning with Deep Atlas Prior -- Pairwise Semantic Segmentation via Conjugate Fully Convolutional Network -- Unsupervised Deformable Image Registration Using Cycle-Consistent CNN -- Volumetric Attention for 3D Medical Image Segmentation and Detection -- Improving Deep Lesion Detection Using 3D Contextual and Spatial Attention -- MULAN: Multitask Universal Lesion Analysis Network for Joint Lesion Detection, Tagging, and Segmentation -- Artifact Disentanglement Network for Unsupervised Metal Artifact Reduction -- AirwayNet: A Voxel-Connectivity Aware Approach for Accurate Airway Segmentation Using Convolutional Neural Networks -- Integrating cross-modality hallucinated MRI with CT to aid mediastinal lung tumor segmentation -- Bronchus Segmentation and Classification by Neural Networks and Linear Programming -- Unsupervised Segmentation of Micro-CT Images of Lung Cancer Specimen Using Deep Generative Models -- Normal appearance autoencoder for lung cancer detection and segmentation -- mVIRNET: Multilevel Variational Image Registration Network -- NoduleNet: Decoupled False Positive Reduction for Pulmonary Nodule Detection and Segmentation -- Encoding CT Anatomy Knowledge for Unpaired Chest X-ray Image Decomposition -- Targeting Precision with Data Augmented Samples in Deep Learning -- Pulmonary Vessel Segmentation based on Orthogonal Fused U-Net++ of Chest CT Images -- Attentive CT Lesion Detection Using Deep Pyramid Inference with Multi-Scale Booster -- Deep Variational Networks with Exponential Weighting for Learning Computed Tomography -- R2-Net: Recurrent and Recursive Network for Sparse-view CT Artifacts Removal -- Stereo-Correlation and Noise-Distribution Aware ResVoxGAN for Dense Slices Reconstruction and Noise Reduction in Thick Low-Dose CT -- Harnessing 2D Networks and 3D Features for Automated Pancreas Segmentation from Volumetric CT Images -- Tubular Structure Segmentation Using Spatial Fully Connected Network With Radial Distance Loss for 3D Medical Images -- Bronchial Cartilage Assessment with Model-Based GAN Regressor -- Adversarial optimization for joint registration and segmentation in prostate CT radiotherapy -- Probabilistic Point Cloud Reconstructions for Vertebral Shape Analysis -- Automatically Localizing a Large Set of Spatially Correlated Key Points: A Case Study in Spine Imaging -- Permutohedral Attention Module for Efficient Non-Local Neural Networks -- Improving RetinaNet for CT Lesion Detection with Dense Masks from Weak RECIST Labels -- X-ray Imaging -- PRSNet: Part Relation and Selection Network for Bone Age Assessment -- Mask Embedding for Realistic High-resolution Medical Image Synthesis -- TUNA-Net: Task-oriented UNsupervised Adversarial Network for Disease Recognition in Cross-Domain Chest X-rays -- Misshapen Pelvis Landmark Detection by Spatial Local Correlation Mining for Diagnosing

Developmental Dysplasia of the Hip -- Adversarial Policy Gradient for Deep Learning Image Augmentation -- Weakly Supervised ROI Mining Toward Universal Fracture Detection in Pelvic X-ray -- Learning from Suspected Target: Bootstrapping Performance for Breast Cancer Detection in Mammography -- From Unilateral to Bilateral Learning: Detecting Mammogram Mass with Contrasted Bilateral Network -- Signed Laplacian Deep Learning with Adversarial Augmentation for Improved Mammography Diagnosis -- Uncertainty measurements for the reliable classification of mammograms -- GraphX<sup>{NET}</sup>- $\chi$  Chest X-Ray Classification Under Extreme Minimal Supervision -- 3DFPN-HS2: 3D Feature Pyramid Network Based High Sensitivity and Specificity Pulmonary Nodule Detection -- Automated detection and type classification of central venous catheters in chest X-rays -- A Comprehensive Framework for Accurate Classification of Pulmonary Nodules -- Hand Pose Estimation for Pediatric Bone Age Assessment -- An Attention-Guided Deep Regression Model for Landmark Detection in Cephalograms -- Learning-based X-ray Image Denoising utilizing Model-based Image Simulations -- LVC-Net: Medical image segmentation with noisy label based on Local Visual Cues -- Unsupervised Cone-Beam Computed Tomography (CBCT) segmentation based on adversarial learning domain adaptation -- Pick-and-Learn: Automatic Quality Evaluation for Noisy-Labeled Image Segmentation -- Anatomical Priors for Image Segmentation via Post-Processing with Denoising Autoencoders -- Simultaneous Lung Field Detection and Segmentation for Pediatric ChestRadiographs -- Deep Esophageal Clinical Target Volume Delineation using Encoded 3D Spatial Context of Tumor, Lymph Nodes, and Organs At Risk -- Weakly Supervised Segmentation Framework with Uncertainty: A Study on Pneumothorax Segmentation in Chest X-ray -- Multi-task Localization and Segmentation for X-ray Guided Planning in Knee Surgery -- Towards fully automatic X-ray to CT registration -- Adaptive image-feature learning for disease classification using inductive graph networks -- How to learn from unlabeled volume data: Self-Supervised 3D Context Feature Learning -- Probabilistic Radiomics: Ambiguous Diagnosis with Controllable Shape Analysis -- Extract Bone Parts without Human Prior: End-to-end Convolutional Neural Network for Pediatric Bone Age Assessment -- Quantifying and Leveraging Classification Uncertainty for Chest Radiograph Assessment -- Adversarial regression training for visualizing the progression of chronic obstructive pulmonary disease with chest x-rays -- Medical-based Deep Curriculum Learning for Improved Fracture Classification -- Realistic Breast Mass Generation through BIRADS Category -- Learning from Longitudinal Mammography Studies -- Automated Radiology Report Generation via Multi-view Image Fusion and Medical Concept Enrichment -- Multi-label Thoracic Disease Image Classification with Cross-attention Networks -- InfoMask: Masked Variational Latent Representation to Localize Chest Disease -- Longitudinal Change Detection on Chest X-rays using Geometric Correlation Maps -- Adversarial Pulmonary Pathology Translation for Pairwise Chest X-ray Data Augmentation -- Semi-Supervised Learning by Disentangling and Self-Ensembling over Stochastic Latent Space -- An Automated Cobb Angle Estimation Method Using Convolutional Neural Network with Area Limitation -- Endotracheal Tube Detection and Segmentation in Chest Radiographs using Synthetic Data -- Learning Interpretable Features via Adversarially Robust Optimization -- Synthesize Mammogram from Digital Breast Tomosynthesis with Gradient Guided cGANs -- Semi-supervised Medical Image Segmentation via Learning Consistency under Transformations -- Improved Inference via Deep Input Transfer --

Neural Architecture Search for Adversarial Medical Image Segmentation -- MeshSNet: Deep Multi-Scale Mesh Feature Learning for End-to-End Tooth Labeling on 3D Dental Surfaces -- Improving Robustness of Medical Image Diagnosis with Denoising Convolutional Neural Networks.

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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.

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