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Nota di contenuto	Multi-cavity Heart Segmentation in Non-contrast Non-ECG Gated CT Scans with F-CNN -- 3D Deep Convolutional Neural Network-based Ventilated Lung Segmentation using Multi-nuclear Hyperpolarized Gas MRI -- Lung Cancer Tumor Region Segmentation Using Recurrent 3D-DenseUNet -- 3D Probabilistic Segmentation and Volumetry from 2D Projection Images -- CovidDiagnosis: Deep Diagnosis of Covid-19 Patients using Chest X-rays -- Can We Trust Deep Learning Based Diagnosis? The Impact of Domain Shift in Chest Radiograph Classification -- A Weakly Supervised Deep Learning Framework for COVID-19 CT Detection and Analysis -- Deep Reinforcement Learning for Localization of the Aortic Annulus in Patients with Aortic Dissection -- Functional-Consistent CycleGAN for CT to Iodine Perfusion Map Translation -- MRI to CTA Translation for Pulmonary Artery Evaluation using CycleGANs Trained with Unpaired Data -- Semi-supervised Virtual Regression of Aortic Dissections Using 3D Generative Inpainting -- Registration-Invariant Biomechanical Features for Disease Staging of COPD in SPIROMICS -- Deep Group-wise Variational Diffeomorphic Image Registration.
Sommario/riassunto	This book constitutes the proceedings of the Second International Workshop on Thoracic Image Analysis, TIA 2020, held in Lima, Peru, in October 2020. Due to COVID-19 pandemic the conference was held virtually. COVID-19 infection has brought a lot of attention to lung

imaging and the role of CT imaging in the diagnostic workflow of COVID-19 suspects is an important topic. The 14 full papers presented deal with all aspects of image analysis of thoracic data, including: image acquisition and reconstruction, segmentation, registration, quantification, visualization, validation, population-based modeling, biophysical modeling (computational anatomy), deep learning, image analysis in small animals, outcome-based research and novel infectious disease applications.