

1. Record Nr.	UNINA9910349275203321
Titolo	Artificial Intelligence in Radiation Therapy : First International Workshop, AIRT 2019, Held in Conjunction with MICCAI 2019, Shenzhen, China, October 17, 2019, Proceedings // edited by Dan Nguyen, Lei Xing, Steve Jiang
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-32486-9
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XI, 172 p. 87 illus., 74 illus. in color.)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 11850
Disciplina	610.28563
Soggetti	Optical data processing Artificial intelligence Health informatics Image Processing and Computer Vision Artificial Intelligence Health Informatics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Using Supervised Learning and Guided Monte Carlo Tree Search for Beam Orientation Optimization in Radiation Therapy -- Feasibility of CT-only 3D dose prediction for VMAT prostate plans using deep learning -- Automatically Tracking and Detecting Significant Nodal Mass Shrinkage During Head-and-Neck Radiation Treatment Using Image Saliency -- 4D-CT Deformable Image Registration Using an Unsupervised Deep Convolutional Neural Network -- Toward markerless image-guided radiotherapy using deep learning for prostate cancer -- A Two-Stage Approach for Automated Prostate Lesion Detection and Classification with Mask R-CNN and Weakly Supervised Deep Neural Network -- A Novel Deep Learning Framework for Standardizing the Label of OARs in CT -- Multimodal Volume-Aware Detection and Segmentation for Brain Metastases Radiosurgery -- Voxel-level Radiotherapy Dose Prediction Using Densely Connected Network with Dilated Convolutions -- Online Target Volume Estimation

and Prediction From an Interlaced Slice Acquisition - A Manifold Embedding and Learning Approach -- One-dimensional convolutional network for Dosimetry Evaluation at Organs-at-Risk in Esophageal Radiation Treatment Planning -- Unpaired Synthetic Image Generation in Radiology Using GANs -- Deriving lung perfusion directly from CT image using deep convolutional neural network: A preliminary study -- Individualized 3D Dose Distribution Prediction Using Deep Learning -- Deep Generative Model-Driven Multimodal Prostate Segmentation in Radiotherapy -- Dose Distribution Prediction for Optimal Treatment of Modern External Beam Radiation Therapy for Nasopharyngeal Carcinoma -- DeepMCDose: A Deep Learning Method for Efficient Monte Carlo Beamlet Dose Calculation by Predictive Denoising in MR-Guided Radiotherapy -- UC-GAN for MR to CT Image Synthesis -- CBCT-based Synthetic MRI Generation for CBCT-guided Adaptive Radiotherapy -- Cardio-pulmonary Substructure Segmentation of CT images using Convolutional Neural Networks.

Sommario/riassunto

This book constitutes the refereed proceedings of the First International Workshop on Connectomics in Artificial Intelligence in Radiation Therapy, AIRT 2019, held in conjunction with MICCAI 2019 in Shenzhen, China, in October 2019. The 20 full papers presented were carefully reviewed and selected from 24 submissions. The papers discuss the state of radiation therapy, the state of AI and related technologies, and hope to find a pathway to revolutionizing the field to ultimately improve cancer patient outcome and quality of life.
