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Soggetti	Diagnostic imaging Optical data processing Machine learning
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Contrast Adaptive Tissue Classification by Alternating Segmentation and Synthesis -- 3D Brain MRI GAN-based Synthesis Conditioned on Partial Volume Maps -- Synthesizing Realistic Brain MR Images With Noise Control -- Simulated Diffusion Weighted Images Based on Model-Predicted Tumor Growth -- Blind MRI Brain Lesion Inpainting Using Deep Learning -- High-Quality Interpolation of Breast DCE-MRI Using Learned Transformations -- A Method for Tumor Treating Fields Fast Estimation -- Heterogeneous Virtual Population of Simulated CMR Images for Improving the Generalization of Cardiac Segmentation Algorithms -- DyeFreeNet: Deep Virtual Contrast CT Synthesis -- A Gaussian Process Model Based Generative Framework for Data Augmentation of Multi-modal 3D Image Volumes -- Frequency-selective Learning for CT to MR Synthesis -- Uncertainty-aware Multi-resolution Whole-body MR to CT Synthesis -- UltraGAN: Ultrasound Enhancement Through Adversarial Generation -- Improving Endoscopic Decision Support Systems by Translating Between Imaging Modalities -- An Unsupervised Adversarial Learning Approach to Fundus Fluorescein Angiography Image Synthesis for Leakage Detection --

Towards Automatic Embryo Staging in 3D+t Microscopy Images Using Convolutional Neural Networks and PointNets -- Train Small, Generate Big: Synthesis of Colorectal Cancer Histology Images -- Image Synthesis as a Pretext for Unsupervised Histopathological Diagnosis -- Auditory Nerve Fiber Health Estimation Using Patient Specific Cochlear Implant Stimulation Models.

Sommario/riassunto

This book constitutes the refereed proceedings of the 5th International Workshop on Simulation and Synthesis in Medical Imaging, SASHIMI 2020, held in conjunction with MICCAI 2020, in Lima, Peru, in October 2020. The 19 full papers presented were carefully reviewed and selected from 27 submissions. The contributions span the following broad categories in alignment with the initial call-for-papers: methods based on generative models or adversarial learning for MRI/CT/PET/microscopy image synthesis, and several applications of image synthesis and simulation for data augmentation, image enhancement or segmentation.
