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	Nota di contenuto	Robust Photoacoustic Beamforming using Dense Convolutional Neural Networks -- A Training Tool for Ultrasound-guided Central Line Insertion with Webcam-based Position Tracking -- GLUENet: Ultrasound Elastography Using Convolutional Neural Network -- CUST: CNN for Ultrasound thermal image reconstruction using Sparse Time-of-flight information -- Quality Assessment of Fetal Head Ultrasound

Images Based on Faster R-CNN -- Recent Advances in Point-of-Care Ultrasound using the ImFusion Suite for Real-Time Image Analysis -- Markerless Inside-Out Tracking for 3D Ultrasound Compounding -- Ultrasound-based Detection of Lung Abnormalities using Single Shot Detection Convolutional Neural Networks -- Quantitative Echocardiography: Real-time Quality Estimation and View Classification Implemented on a Mobile Android Device -- Single-Element Needle-Based Ultrasound Imaging of the Spine: An In Vivo Feasibility Study -- A novel interventional guidance framework for transseptal puncture in left atrial interventions -- Holographic visualisation and interaction of fused CT, PET and MRI volumetric medical imaging data using dedicated remote GPGPU ray casting -- Mr. Silva and Patient Zero: a medical social network and data visualization information system -- Fully Convolutional Network-based Eyeball Segmentation from Sparse Annotation for Eye Surgery Simulation Model -- Resolve Intraoperative Brain Shift as Imitation Game -- Non-linear approach for MRI to intra-operative US registration using structural skeleton -- Brain-shift correction with image-based registration and landmark accuracy evaluation -- Deformable MRI-ultrasound Registration Using 3D Convolutional Neural Network -- Intra-operative Ultrasound to MRI Fusion with a Public Multimodal Discrete Registration Tool -- Deformable MRI-Ultrasound Registration via Attribute Matching and Mutual-saliency Weighting for Image guided Neurosurgery -- Registration of MRI and iUS data to compensate brain shift using a symmetric block-matching based approach -- Intra-operative Brain Shift Correction with Weighted Locally Linear Correlations of 3DUS and MRI -- Survival modeling of pancreatic cancer with radiology using convolutional neural networks -- Pancreatic Cancer Survival Prediction Using CT Scans and Clinical Variables.

Sommario/riassunto	This book constitutes the refereed joint proceedings of the International Workshop on Point-of-Care Ultrasound, POCUS 2018, the International Workshop on Bio-Imaging and Visualization for Patient-Customized Simulations, BIVPCS 2017, the International Workshop on Correction of Brainshift with Intra-Operative Ultrasound, CuRIOUS 2018, and the International Workshop on Computational Precision Medicine, CPM 2018, held in conjunction with the 21st International Conference on Medical Imaging and Computer-Assisted Intervention, MICCAI 2018, in Granada, Spain, in September 2018. The 10 full papers presented at POCUS 2018, the 4 full papers presented at BIVPCS 2018, the 8 full papers presented at CuRIOUS 2018, and the 2 full papers presented at CPM 2018 were carefully reviewed and selected. The papers feature research from complementary fields such as ultrasound image systems applications as well as signal and image processing, mechanics, computational vision, mathematics, physics, informatics, computer graphics, bio-medical-practice, psychology and industry. They discuss intra-operative ultrasound-guided brain tumor resection as well as pancreatic cancer survival prediction.