

Biological/Optical/Microscopic Imaging // Cell Segmentation and Stain Normalization A

- 1033: Structure Preserving Stain Normalization of Histopathology Images Using Self Supervised Semantic Guidance
- 1228: A Novel Loss Calibration Strategy for Object Detection Networks Training on Sparsely Annotated Pathological Datasets
- 1235: Histopathological Stain Transfer Using Style Transfer Network With Adversarial Loss
- 2229: Instance-aware Self-supervised Learning for Nuclei Segmentation
- 277: BCData: A Large-Scale Dataset and Benchmark for Cell Detection and Counting
- 34: Boundary-assisted Region Proposal Networks for Nucleus Segmentation
- 567: Weakly-Supervised Nucleus Segmentation Based on Point Annotations: A Coarse-to-Fine Self-Stimulated Learning Strategy

Clinical Applications // Lung Applications A

- 1343: CPM-Net: A 3D Center-Points Matching Network for Pulmonary Nodule Detection in CT Scans
- 2029: Class-Aware Multi-Window Adversarial Lung Nodule Synthesis Conditioned on Semantic Features
- 2100: Nodule2vec: a 3D Deep Learning System for Pulmonary Nodule Retrieval Using Semantic Representation
- 440: Malignancy-Aware Follow-Up Volume Prediction for Lung Nodules
- 774: Multi-stream Progressive Up-sampling Network for Dense CT Image Reconstruction
- 864: Abnormality Detection on Chest X-ray Using Uncertainty Prediction Auto-Encoders

Image Registration // Image Registration A

- 1063: Pair-wise and Group-wise Deformation Consistency in Deep Registration Network
- 1159: A Semantic Hierarchy Guided Registration Network for Intra-Subject Pulmonary CT Image Alignment
- 1424: Highly accurate and memory efficient unsupervised learning-based discrete CT registration using 2.5D displacement search
- 2069: Unsupervised Learning Model for Registration of Multi-Phase Ultra-Widefield Fluorescein Angiography
- 531: MvMM-RegNet: A new image registration framework based on multivariate mixture model and neural network estimation
- 843: Database annotation with few examples: An atlas-based framework using diffeomorphic registration of 3D trees

Machine Learning Methodologies // Self-supervised learning A

- 1041: Test-time Unsupervised Domain Adaptation
- 1682: Self domain adapted network
- 2127: Entropy Guided Unsupervised Domain Adaptation for Cross-Center Hip Cartilage Segmentation from MRI
- 394: Dual-task Self-supervision for Cross-Modality Domain Adaptation
- 511: Dual-Teacher: Integrating Intra-domain and Inter-domain Teachers for Annotation-efficient Cardiac Segmentation

Neuroimaging // Functional Brain Networks A

- 1077: Estimating Common Harmonic Waves of Brain Networks on Stiefel Manifold
- 1118: Neural Architecture Search for Optimization of Spatial-temporal Brain Network Decomposition
- 1500: Attention-Guided Deep Graph Neural Network for Longitudinal Alzheimer's Disease Analysis
- 1846: Poincare embedding reveals edge-based functional networks of the brain
- 2049: Enriched Representation Learning in Resting-State fMRI for Early MCI Diagnosis
- 2938: Whole MILC: generalizing learned dynamics across tasks, datasets, and populations

Segmentation // Segmentation - General A

- 1389: Learning 3D Features with 2D CNNs via Surface Projection for CT Volume Segmentation
- 2040: Deep Class-specific Affinity-Guided Convolutional Network for Multimodal Unpaired Image Segmentation
- 2045: Memory-efficient Automatic Kidney and Tumor Segmentation Based on Non-local Context Guided 3D U-Net
- 50: TexNet: Texture Loss Based Network for Gastric Antrum Segmentation in Ultrasound
- 530: Multi-organ Segmentation via Co-training Weight-averaged Models from Few-organ Datasets
- 575: Suggestive Annotation of Brain Tumour Images with Gradient-guided Sampling
- 614: Uncertainty-Guided Efficient Interactive Refinement of Fetal Brain Segmentation from Stacks of MRI Slices

Biological/Optical/Microscopic Imaging // Histopathology Image Analysis A

- 1030: A Deformable CRF Model for Histopathology Whole-slide Image Classification
- 1234: Deep Active Learning for Breast Cancer Segmentation on Immunohistochemistry Images
- 2784: Multiple Instance Learning with Center Embeddings for Histopathology Classification
- 616: Divide-and-Rule: Self-Supervised Learning for Survival Analysis in Colorectal Cancer
- 764: Microscopic fine-grained instance classification through deep attention

Clinical Applications // MSK Applications A

- 1080: Segmentation of Paraspinal Muscles at Varied Lumbar Spinal Levels by Explicit Saliency-Aware Learning
- 1176: Manifold Ordinal-Mixup for Ordered Classes in TW3-based Bone Age Assessment
- 1843: Generalizing Spatial Transformers to Projective Geometry with Applications to 2D/3D Registration
- 21: Towards Robust Bone Age Assessment: Rethinking Label Noise and Ambiguity
- 253: Improve bone age assessment by learning from anatomical local regions
- 784: An Analysis by Synthesis Method that Allows Accurate Spatial Modeling of Thickness of Cortical Bone from Clinical QCT

Clinical Applications // Ophthalmology A

- 1195: A Macro-Micro Weakly-supervised Framework for AS-OCT Tissue Segmentation
- 1203: Macular Hole and Cystoid Macular Edema Joint Segmentation by Two-Stage Network and Entropy Minimization
- 2021: Retinal Nerve Fiber Layer Defect Detection With Position Guidance
- 2048: Classification of Retinal Vessels into Artery-Vein in OCT Angiography Guided by Fundus Images
- 266: Reconstruction and Quantification of 3D Iris Surface for Angle-Closure Glaucoma Detection in Anterior Segment OCT
- 648: Open-Narrow-Synechiae Anterior Chamber Angle Classification in AS-OCT Sequences

Computer Assisted Intervention // CAI - Video Image Analysis A

- 1549: Spectral-Spatial Recurrent-Convolutional Networks for In-Vivo Hyperspectral Tumor Type Classification
- 204: Unsupervised Surgical Instrument Segmentation via Anchor Generation and Semantic Diffusion
- 2506: Synthetic and real inputs for semantic segmentation in robotic surgery
- 2550: Perfusion Quantification from Endoscopic Videos: Learning to Read Tumour Signatures
- 870: Towards Accurate and Interpretable Surgical Skill Assessment: A Video-Based Method Incorporating Recognized Surgical Gestures and Skill Levels
- 912: Learning Motion Flows for Semi-supervised Instrument Segmentation from Robotic Surgical Video

Machine Learning Methodologies // Domain Adaptation A

- 1014: Automatic and interpretable model for periodontitis diagnosis in panoramic radiographs
- 1216: Residual CycleGAN based Camera Adaptation for Robust Diabetic Retinopathy Screening
- 1842: Cross-Domain Image Translation by Shared Latent Gaussian Mixture Model
- 229: Improve Unseen Domain Generalization via Enhanced Local Color Transformation and Augmentation
- 386: Domain Adaptive Relational Reasoning for 3D Multi-Organ Segmentation

Neuroimaging // Brain Development and Atlases A

- 1124: Optimizing Visual Cortex Parameterization with Error-Tolerant Teichmüller Map in Retinotopic Mapping
- 150: Brain Age Estimation From MRI Using a Two-Stage Cascade Network with a Ranking Loss
- 1964: Multi-Scale Enhanced Graph Convolutional Network for Early Mild Cognitive Impairment Detection
- 2332: Construction of Spatiotemporal Infant Cortical Surface Functional Templates
- 299: Context-Aware Refinement Network Incorporating Structural Connectivity Prior for Brain Midline Delineation
- 630: Recovering Brain Structural Connectivity from Functional Connectivity via Multi-GCN based Generative Adversarial Network

Clinical Applications // Angiography A

- 1313: Automatic CAD-RADS Scoring from CCTA Scans using Deep Learning
- 1610: Higher-Order Flux with Spherical Harmonics Transform for Vascular Analysis
- 1872: Cerebrovascular Segmentation in MRA via Reverse Edge Attention Network
- 497: Lightweight Double Attention-fused Networks for Intraoperative Stent Segmentation
- 603: TopNet: Topology Preserving Metric Learning for Vessel Tree Reconstruction and Labelling
- 604: Learning Hybrid Representations for Automatic 3D Vessel Centerline Extraction
- 877: Branch-aware Double DQN for Centerline Extraction in Coronary CT Angiography

Clinical Applications // Dermatology

- 2954: Learning Differential Diagnosis of Skin Conditions with Co-occurrence Supervision using Graph Convolutional Networks
- 468: A distance-based loss for smooth and continuous skin layer segmentation in optoacoustic images.
- 481: Fairness of Classifiers Across Skin Tones in Dermatology
- 494: Alleviating the Incompatibility between Cross Entropy Loss and Episode Training for Few-shot Skin Disease Classification
- 617: Clinical-Inspired Network for Skin Lesion Recognition
- 618: Multi-class Skin Lesion Segmentation for Cutaneous T-cell Lymphomas on High-Resolution Clinical Images

Clinical Applications // Fetal Imaging

- 1223: Enhanced detection of fetal pose in 3D MRI by Deep Reinforcement Learning with physical structure priors on anatomy
- 1620: Automatic angle of progress measurement of intrapartum transperineal ultrasound image with deep learning
- 1765: Joint Image Quality Assessment and Brain Extraction of Fetal MRI using Deep Learning
- 675: Deep learning automatic fetal structures segmentation in MRI scans with few annotated datasets
- 759: Data-Driven Multi-Contrast Spectral Microstructure Imaging with InSpect
- 807: Semi-Supervised Learning for Fetal Brain MRI Quality Assessment with ROI consistency

Machine Learning Methodologies // Active Learning and Reinforcement Learning

- 1353: Scribble2Label: Scribble-Supervised Cell Segmentation via Self-Generating Pseudo-Labels with Consistency
- 1542: Are fast labeling methods reliable? A case study of computer-aided expert annotations on microscopy slides
- 2062: Deep Reinforcement Active Learning for Medical Image Classification
- 2166: An Effective Data Refinement Approach for Upper Gastrointestinal Anatomy Recognition
- 2852: Synthetic Sample Selection via Reinforcement Learning
- 689: Attention, Suggestion and Annotation: A Deep Active Learning Framework for Biomedical Image Segmentation

Segmentation // Segmentation - Oncological A

- 1034: Multimodal Priors Guided Segmentation of Liver Lesions in MRI Using Mutual Information Based Graph Co-Attention Networks
- 1093: Mt-UcGAN: Multi-task uncertainty-constrained GAN for joint segmentation, quantification and uncertainty estimation of renal tumors on CT
- 1262: Weakly Supervised Deep Learning for Breast Cancer Segmentation with Coarse Annotations
- 1409: Multi-phase and Multi-level Selective Feature Fusion for Automated Pancreas Segmentation from CT Images
- 1430: Robust Pancreatic Ductal Adenocarcinoma Segmentation with Multi-Institutional Multi-Phase Partially-Annotated CT Scans
- 285: Bounding Maps for Universal Lesion Detection

Shape Models and Landmark Detection // Shape Models and Landmark Detection A

- 1099: Self-Supervised Discovery of Anatomical Shape Landmarks
- 1132: Miss the point: Targeted adversarial attack on multiple landmark detection
- 1402: Shape Mask Generator: Learning to Refine Shape Priors for Segmenting Overlapping Cervical Cytoplasm
- 1625: Prostate motion modelling using biomechanically-trained deep neural networks on unstructured nodes
- 183: Graph Reasoning and Shape Constraints for Cardiac Segmentation in Congenital Heart Defect
- 3041: Landmarks Detection with Anatomical Constraints for Total Hip Arthroplasty Preoperative Measurements
- 783: Nonlinear Regression on Manifolds for Shape Analysis using Intrinsic Bézier Splines

Biological/Optical/Microscopic Imaging // Biological/Optical/Microscopic Imaging A

- 2237: A Novel Approach to Tongue Standardization and Feature Extraction
- 255: Channel Embedding for Informative Protein Identification from Highly Multiplexed Images
- 2706: Patch-based Non-Local Bayesian Networks for Blind Confocal Microscopy Denoising
- 3008: Attention-guided Quality Assessment for Automated Cryo-EM Grid Screening
- 436: Demixing of Calcium Imaging Data in Moving *C. elegans* Using Deformable NMF
- 437: Segmenting Continuous but Sparsely-Labeled Structures in Super-Resolution Microscopy Using Perceptual Grouping
- 555: Automated Measurement of Key Morphological Features of Human Embryos for IVF

Clinical Applications // Breast A

- 119: MommiNet: Mammographic Multi-View Mass Identification Networks
- 1624: Multi-Site Evaluation of a Study-Level Classifier for Mammography using Deep Learning
- 2102: The case of missed cancers: Applying AI as a radiologist's safety net
- 2196: Decoupling Inherent Risk and Early Cancer Signs in Image-based Breast Cancer Risk Models
- 2444: Multi-task learning for detection and classification of cancer in screening mammography

Image Reconstruction // Image Reconstruction A

- 1326: Compressive MRF reconstruction with neural proximal gradient iterations
- 1588: Active MR k-space Sampling with Reinforcement Learning
- 1820: Fast Correction of Eddy-Current and Susceptibility-Induced Distortions Using Rotation-Invariant Contrasts
- 2188: Joint reconstruction and bias field correction for undersampled MR imaging
- 2189: Joint Total Variation ESTATICS for Robust Multi-Parameter Mapping
- 2693: End-to-End Variational Networks for Accelerated MRI Reconstruction
- 403: Improving Amide Proton Transfer-weighted MRI Reconstruction using T2-weighted Images

Machine Learning Methodologies // Self-supervised learning B

- 2256: Scribble-based Domain Adaptation via Deep Co-Segmentation
- 2553: Source-Relaxed Domain Adaptation for Image Segmentation
- 2612: Region-of-interest guided Supervoxel Inpainting for Self-supervision
- 2780: Harnessing Uncertainty in Domain Adaptation for MRI Prostate Lesion Segmentation
- 686: User-Guided Domain Adaptation for Rapid Annotation from User Interactions: A Study on Pathological Liver Segmentation
- 895: SALAD: Self-Supervised Aggregation Learning for Anomaly Detection on X-Rays

Computer Assisted Intervention // CAI - Instrumentation and Surgical Phase Detection

- 2067: Surgical Video Motion Magnification for a Tool Active Scene
- 2319: Recognition of Instrument-Tissue Interactions in Endoscopic Videos via Action Triplets
- 2415: AutoSNAP: Automatically Learning Neural Architectures for Instrument Pose Estimation
- 2609: Automatic Operating Room Surgical Activity Recognition for Robot-Assisted Surgery
- 605: TeCNO: Surgical Phase Recognition with Multi-Stage Temporal Convolutional Networks

Machine Learning Methodologies // Interpretability

- 1517: Interpretability-guided Content-based Medical Image Retrieval
- 2184: Domain aware medical image classifier interpretation by counterfactual impact analysis
- 2673: Towards Emergent Language Symbolic Semantic Segmentation and Model Interpretability
- 346: Image Translation for Understanding Medical Image Classifiers
- 476: Interpretable Deep Models for Cardiac Resynchronisation Therapy Response Prediction
- 626: Encoding Visual Attributes in Capsules for Explainable Medical Diagnoses

Neuroimaging // DWI and Tractography A

- 1974: Hierarchical geodesic modeling on the diffusion orientation distribution function for longitudinal DW-MRI analysis
- 2104: TRAKO: Efficient Transmission of Tractography Data for Visualization
- 2198: Spatial Semantic-Preserving Latent Space Learning for Accelerated DWI Diagnostic Report Generation
- 2391: Trajectories from Distribution-valued Functional Curves: A Unified Wasserstein Framework
- 2555: Characterizing Intra-Soma Diffusion with Spherical Mean Spectrum Imaging
- 683: Unsupervised Deep Learning for Susceptibility Distortion Correction in Connectome Imaging

Segmentation // Segmentation - General B

- 1680: INSIDE: Steering Spatial Attention with Non-Imaging Information in CNNs
- 1705: SiamParseNet: Joint Body Parsing and Label Propagation in Infant Movement Videos
- 1772: Orchestrating Medical Image Compression and Remote Segmentation Networks
- 559: CNN-GCN Aggregation Enabled Boundary Regression for Biomedical Image Segmentation
- 592: KiU-Net: Towards Accurate Segmentation of Biomedical Images using Over-complete Representations
- 693: LAMP: Large Deep Nets with Automated Model Parallelism for Image Segmentation

5th Oct : 16:00 UTC

Machine Learning Methodologies // Machine Learning Applications A

- 1157: Joint Modeling of Chest Radiographs and Radiology Reports for Pulmonary Edema Assessment
- 1436: Domain-specific loss design for unsupervised physical training: A new approach to modeling medical ML solutions
- 1695: Multiatlas Calibration of Biophysical Brain Tumor Growth Models with Mass Effect
- 2018: Chest X-ray Report Generation through Fine-Grained Label Learning
- 2729: Peri-Diagnostic Decision Support Through Cost-Efficient Feature Acquisition at Test-Time
- 2870: A Deep Bayesian Video Analysis Framework: Towards a More Robust Estimation of Ejection Fraction

Neuroimaging // Brain Development and Atlases B

- 1142: From Connectomic to Task-evoked Fingerprints: Individualized Prediction of Task Contrasts from Resting-state Functional Connectivity
- 1618: A New Metric for Characterizing Dynamic Redundancy of Dense Brain Chronnectome and Its Application to Early Detection of Alzheimer's Disease
- 1728: Disentangled Intensive Triplet Autoencoder for Infant Functional Connectome Fingerprinting
- 1948: COVLET: Covariance-based Wavelet-like Transform for Statistical Analysis of Brain Characteristics in Children
- 2498: Parkinson's Disease Detection from fMRI-derived Brainstem Regional Functional Connectivity Networks
- 274: Persistent Feature Analysis of Multimodal Brain Networks Using Generalized Fused Lasso for EMCI Identification

Segmentation // Detection, Localization and Segmentation

- 1180: Region Proposals for Saliency Map Refinement for Weakly-supervised Disease Localisation and Classification
- 1188: Weakly supervised onestage vision and language object detection using large scale pneumonia and pneumothorax studies
- 232: DeScarGAN: Disease-Specific Anomaly Detection with Weak Supervision
- 2599: Diagnostic Assessment of Deep Learning Algorithms for Detection and Segmentation of Lesion in Mammographic images
- 369: CircleNet: Anchor-free Glomerulus Detection with Circle Representation

Clinical Applications // Breast B

- 168: Deep Doubly Supervised Transfer Network for Diagnosis of Breast Cancer with Imbalanced Ultrasound Imaging Modalities
- 1851: A Second-order Subregion Pooling Network for Breast Ultrasound Lesion Segmentation
- 1959: Multi-Scale Gradational-Order Fusion Framework for Breast Lesion Classification Using Ultrasound Image
- 2168: Detecting Breast Cancer While it is Curable: Detecting Small Masses in Mammography
- 2370: Computer-aided Tumor Diagnosis in Automated breast ultrasound using 3D Detection Network
- 297: 2D X-ray mammography and 3D breast MRI registration
- 2994: Auto-weighting for Breast Cancer Classification in Multimodal Ultrasound

Clinical Applications // Colonoscopy

- 1031: PraNet: Parallel Reverse Attention Network for Polyp Segmentation
- 1169: Few-Shot Anomaly Detection for Polyp Frames from Colonoscopy
- 2073: PolypSeg: an Efficient Context-aware Network for Polyp Segmentation from Colonoscopy Videos
- 2093: Endoscopic polyp segmentation using a hybrid 2D/3D CNN
- 577: Asynchronous in Parallel Detection and Tracking (AIPDT): Real-time Robust Polyp Detection
- 881: Adaptive Context Selection for Polyp Segmentation

Clinical Applications // Ophthalmology B

- 1017: TR-GAN: Topology Ranking GAN with Triplet Loss for Retinal Artery/Vein Classification
- 1056: DeepGF: Glaucoma Forecast Using Sequential Fundus Images
- 2461: Single-Shot Retinal Image Enhancement Using Deep Image Prior
- 445: GREEN: a Graph REsidual rE-ranking Network for Grading Diabetic Retinopathy
- 646: Combining Fundus Images and Fluorescein Angiography for Artery/Vein Classification Using the Hierarchical Vessel Graph Network
- 988: Adaptive Dictionary Learning Based Multimodal Branch Retinal Vein Occlusion Fusion

Machine Learning Methodologies // Advances in Machine Learning Theory A

- 1064: Have you forgotten? A method to assess if machine learning models have forgotten data
- 1218: Learning and Exploiting Interclass Visual Correlations for Medical Image Classification
- 13: Dual-level Selective Transfer Learning for Intrahepatic Cholangiocarcinoma Segmentation in Non-enhanced Abdominal CT
- 153: O-Net: Learning Recurrent Bi-directional Connections for Encoder-Decoder Architecture
- 2373: Feature Preserving Smoothing Provides Simple and Effective Data Augmentation for Medical Image Segmentation
- 2908: Deep kNN for Medical Image Classification
- 643: Constrain Latent Space for Schizophrenia Classification via Dual Space Mapping Net

Neuroimaging // Brain Development and Atlases C

- 1123: Species-Shared and -Specific Structural Connections Revealed by Dirty Multi-Task Regression
- 1440: Self-weighted Multi-Task Learning for Subjective Cognitive Decline Diagnosis
- 1724: A computational framework for dissociating development-related from individually variable flexibility in regional modularity assignment in early infancy
- 1951: Unified Brain Network with Functional and Structural Data
- 2177: Integrating Similarity Awareness and Adaptive Calibration in Graph Convolution Network to Predict Disease-induced Deterioration
- 2411: Infant Cognitive Scores Prediction With Multi-stream Attention-based Temporal Path Signature Features

Segmentation // Segmentation - General C

- 1134: Learning Sample-adaptive Intensity Lookup Table for Brain Tumor Segmentation
- 1230: Superpixel-Guided Label Softening for Medical Image Segmentation
- 1497: Revisiting Rubik's Cube: Self-supervised Learning with Volume-wise Transformation for 3D Medical Image Segmentation
- 1990: Robust Medical Image Segmentation from Non-expert Annotation with Tri-network
- 2268: Robust Fusion of Probability Maps
- 2537: Calibrated Surrogate Maximization of Dice
- 901: Deep Small Bowel Segmentation with Cylindrical Topological Constraints

6th Oct : 11:00 UTC

Biological/Optical/Microscopic Imaging // Biological/Optical/Microscopic Imaging B

- 1415: Background and illumination correction for time-lapse microscopy data with correlated foreground
- 1825: Joint Spatial-Wavelet Dual-Stream Network for Super-Resolution
- 1918: Towards Neuron Segmentation from Macaque Brain Images: A Weakly Supervised Approach
- 547: Learning Guided Electron Microscopy with Active Acquisition
- 690: DISCo: Deep learning, Instance Segmentation, and Correlations for cell segmentation in calcium imaging
- 918: Isotropic Reconstruction of 3D EM Images with Unsupervised Degradation Learning

Clinical Applications // MSK Applications B

- 1370: Keypoints localization for joint vertebradetection and fracture severity quantification
- 1543: Grading Loss: A Fracture Grade-based Metric Loss for Vertebral Fracture Detection
- 2381: 3D Convolutional Sequence to Sequence Model for Vertebral Compression Fractures Identification in CT
- 747: Automatic Segmentation, Localization, and Identification of Vertebrae in 3D CT Images Using Cascaded Convolutional Neural Networks
- 845: Discriminative dictionary-embedded network for comprehensive vertebrae tumor diagnosis
- 846: Multi-vertebrae segmentation from arbitrary spine MR images under global view
- 930: A Convolutional Approach to Vertebrae Identification in Whole Spine MRI

Image Registration // Image Registration B

- 1501: Longitudinal image registration with temporal-order and subject-specificity discrimination
- 2172: Flexible Bayesian Modelling for Nonlinear Image Registration
- 218: Large Deformation Diffeomorphic Image Registration with Laplacian Pyramid Networks
- 306: Adversarial Uni- and Multi-modal Stream Networks for Multimodal Image Registration
- 996: Cross-Modality Multi-Atlas Segmentation Using Deep Neural Networks

Machine Learning Methodologies // Semi-supervised learning A

- 1133: Geometry-aware semi-supervised 3D semantic segmentation for medical images
- 1867: Local and Global Structure-aware Entropy Regularized Mean Teacher Model for 3D Left Atrium segmentation
- 2200: Improving dense pixelwise prediction of epithelial density using unsupervised data augmentation for consistency regularization
- 465: Deep Semi-supervised Knowledge Distillation for Overlapping Cervical Cell Instance Segmentation
- 532: DMNet: Difference Minimization Network for Semi-supervised Segmentation in Medical Images
- 647: Double-uncertainty Weighted Method for Semi-supervised Learning

Segmentation // Segmentation - Retinal

- 1058: Structure-Texture Decomposition Network: Reducing Texture Influence Improves Accuracy
- 1469: BEFD: Boundary Enhancement and Feature Denoising for Vessel Segmentation
- 2066: Boosting Connectivity in Retinal Vessel Segmentation via a Recursive Semantics-Guided Network
- 2072: RVSeg-Net: an Efficient Feature Pyramid Cascade Network for Retinal Vessel Segmentation
- 720: An Elastic Interaction Based Loss Function for Medical Image Segmentation

Ultrasound Imaging // Ultrasound Imaging A

- 1847: Directing Ultrasound Probe Placement for Image Guided Prostate Radiotherapy
- 2309: Searching Collaborative Agents for Multi-plane Localization in 3D Ultrasound
- 2357: Contrastive Rendering for Ultrasound Image Segmentation
- 2405: An unsupervised approach to ultrasound elastography with end-to-end strain regularisation.
- 2827: Automatic Probe Movement Guidance for Freehand Obstetric Ultrasound
- 854: Self-supervised Contrastive Video-Speech Representation Learning for Ultrasound

6th Oct : 11:30 UTC

Computer Assisted Intervention // CAI -Navigation and Visualization

- 1073: Can a hand-held navigation device reduce cognitive load? A user-centered approach evaluated by 18 surgeons.
- 1685: Symmetric Dilated Convolution for Surgical Gesture Recognition
- 1952: Deep Selection: A Fully Supervised Camera Selection Network for Surgery Recordings
- 2246: Interacting with Medical Volume Data in Projective Augmented Reality
- 2361: VR Simulation of Novel Hands-free Interaction Concepts for Surgical Robotic Visualization Systems
- 2679: Spatially-Aware Displays for Computer Assisted Interventions

Machine Learning Methodologies // Domain Adaptation B

- 1980: JBFnet - Low Dose CT Denoising by Trainable Joint Bilateral Filtering
- 2243: MI²GAN: Generative Adversarial Network for Medical Image Domain Adaptation using Mutual Information Constraint
- 72: Shape-aware Meta-learning for Generalizing Prostate MRI Segmentation to Unseen Domains
- 815: Automatic MPR Adjustment of Intraoperative FDCT Volumes
- 863: Transport-based Joint Distribution Alignment for Multi-site Autism Spectrum Disorder Diagnosis using Resting-state fMRI
- 958: Unsupervised Graph Domain Adaptation for Neurodevelopmental Disorders Diagnosis

Machine Learning Methodologies // Learning Methodologies

- 1236: MS-NAS: Multi-Scale Neural Architecture Search for Medical Image Segmentation
- 1413: Comparing to Learn: Surpassing ImageNet Pretraining on Radiographs By Comparing Image Representations
- 175: Meta Corrupted Pixels Mining for Medical Image Segmentation
- 188: UXNet: Searching Multi-level Feature Aggregation for 3D Medical Image Segmentation
- 202: Difficulty-aware Meta-Learning for Rare Disease Diagnosis
- 598: Few Is Enough: Task-Augmented Active Meta-Learning for Brain Cell Classification
- 921: Automatic Data Augmentation for 3D Medical Image Segmentation

Neuroimaging // Neuroimaging A

- 1617: Joint Neuroimage Synthesis and Representation Learning for Conversion Prediction of Subjective Cognitive Decline
- 2057: Differentiable Deconvolution for Improved Stroke Perfusion Analysis
- 383: Topology-Aware Generative Adversarial Network for Joint Prediction of Multiple Brain Graphs from a Single Brain Graph
- 729: Edge-variational Graph Convolutional Networks for Uncertainty-aware Disease Prediction
- 840: Fisher-Rao Regularized Transport Analysis of the Glymphatic System and Waste Drainage

Segmentation // Segmentation and CAD

- 103: Scale-Space Autoencoders for Unsupervised Anomaly Segmentation in Brain MRI
- 2386: Deep Attentive Panoptic Model for Prostate Cancer Detection Using Biparametric MRI Scans
- 516: One Click Lesion RECIST Measurement and Segmentation on CT Scans
- 62: Revisiting 3D Context Modeling with Supervised Pre-training for Universal Lesion Detection on CT Slices
- 655: Automated Detection of Cortical Lesions in Multiple Sclerosis Patients with 7T MRI
- 88: Deep Volumetric Universal Lesion Detection using Light-Weight Pseudo 3D Convolution and Surface Point Regression

Shape Models and Landmark Detection // Shape Models and Landmark Detection B

- 1090: Instantiation-Net: 3D Mesh Reconstruction from Single 2D Image for Right Ventricle
- 1293: Automatic Tooth Segmentation and Dense Correspondence of 3D Dental Model
- 1412: Move over there: One-click deformation of preoperative 3D information to intraoperative X-ray during endovascular aortic repair
- 1452: Non-Rigid Volume to Surface Registration using a Data-Driven Biomechanical Model
- 1567: Deformation Aware Augmented Reality for Craniotomy using 3D/2D Non-rigid Registration of Cortical Vessels
- 1771: Deep Learning Assisted Automatic Intra-operative 3D Aortic Deformation Reconstruction
- 2778: Skip-StyleGAN: Skip-connected Generative Adversarial Networks for Generating 3D Rendered Image of Hand Bone Complex

6th Oct : 15:00 UTC

Machine Learning Methodologies // Generative Adversarial Networks A

- 102: SteGANomaly: Inhibiting CycleGAN Steganography for Unsupervised Anomaly Detection in Brain MRI
- 1791: Interpretation of Disease Evidence for Medical Images Using Adversarial Deformation Fields
- 2397: Spatial-Intensity Transform GANs for High Fidelity Medical Image-to-Image Translation
- 2398: Graded Image Generation Using Stratified CycleGAN
- 2905: Prediction of Plantar Shear Stress Distribution by Conditional GAN with Attention Mechanism

Neuroimaging // Neuroimaging B

- 1813: Patch-based abnormality maps for improved deep learning-based classification of Huntington's disease
- 1902: A Deep Spatial Context Guided Framework for Infant Brain Subcortical Segmentation
- 2299: Modelling the Distribution of 3D Brain MRI using a 2D Slice VAE
- 434: Spatial Similarity-Aware Learning and Fused Deep Polynomial Network for Detection of Obsessive-Compulsive Disorder
- 525: Deep Representation Learning For Multimodal Brain Networks
- 907: Pooling Regularized Graph Neural Network for fMRI Biomarker Analysis

Segmentation // Segmentation - Oncological B

- 1067: Asymmetrical Multi-Task Attention U-Net for the Segmentation of Prostate Bed in CT Image
- 1171: Learning High-Resolution and Efficient Non-local Features for Brain Glioma Segmentation in MR Images
- 1544: Generation of Annotated Brain Tumor MRIs with Tumor-induced Tissue Deformations for Training and Assessment of Neural Networks
- 1575: E2Net: An Edge Enhanced Network for Accurate Liver and Tumor Segmentation on CT Scans
- 1600: Universal loss reweighting to balance lesion size inequality in 3D medical image segmentation
- 2409: Brain tumor segmentation with missing modalities via latent multi-source correlation representation

Ultrasound Imaging // Ultrasound Imaging B

- 1111: Sensorless Freehand 3D Ultrasound Reconstruction via Deep Contextual Learning
- 1113: Ultra2Speech - A Deep Learning Framework for Formant Frequency Estimation and Tracking from Ultrasound Tongue Images
- 1302: Ultrasound Video Summarization using Deep Reinforcement Learning
- 1524: Predicting obstructive hydronephrosis based on ultrasound alone
- 2365: Adaptation of Optical Flow Convolutional Neural Networks to Ultrasound Elastography Using Unsupervised Training
- 2402: Three-dimensional thyroid assessment from untracked 2D ultrasound clips
- 2815: Complex Cancer Detector: Complex Neural Networks on Non-stationary Time Series for Guiding Systematic Prostate Biopsy

6th Oct : 15:30 UTC

Machine Learning Methodologies // Semi-supervised learning B

- 1527: Uncertainty estimates from unlabeled data improve segmentation performance
- 1898: Extreme Consistency: Overcoming Annotation Scarcity and Domain Shifts
- 201: Deep Q-Network-Driven Catheter Segmentation in 3D US by Hybrid Constrained Semi-Supervised Learning and Dual-UNet
- 2272: Spatio-temporal Consistency and Negative Label Transfer for 3D freehand US Segmentation
- 426: Realistic Adversarial Data Augmentation for MR Image Segmentation
- 602: Learning to Segment Anatomical Structures Accurately from One Exemplar

Neuroimaging // Functional Brain Networks B

- 1939: The constrained network-based statistic: a new level of inference for neuroimaging
- 2005: Learning Personal Representations from fMRI by Predicting Neurofeedback Performance
- 228: A physics-informed geometric learning model for pathological tau spread in Alzheimer's disease
- 2711: A 3D Convolutional Encapsulated Long Short-Term Memory (3DConv-LSTM) Model for Denoising fMRI Data
- 801: A deep pattern recognition approach for inferring respiratory volume fluctuations from fMRI data
- 832: A Deep-Generative Hybrid Model to Integrate Multimodal and Dynamic Connectivity for Predicting Spectrum-Level Deficits in Autism

Shape Models and Landmark Detection // Shape Models and Landmark Detection C

- 1097: A kernelized multi-level localization method for flexible shape modeling with few training data
- 1479: Unsupervised Learning and Statistical Shape Modeling of the Morphometry and Hemodynamics of Coarctation of the Aorta
- 1586: Convolutional Bayesian Models for Anatomical Landmarking on Multi-Dimensional Shapes
- 1935: SAUNet: Shape Attentive U-Net for Interpretable Medical Image Segmentation
- 2401: Multi-Task Dynamic Transformer Network for Concurrent Bone Segmentation and Large-Scale Landmark Localization with Dental CBCT
- 2417: Automatic Landmark Localization using Local Attention-based Graph Convolution Network from Craniomaxillofacial CBCT Images
- 552: Dynamic multi-object Gaussian process models

Biological/Optical/Microscopic Imaging // Histopathology Image Analysis B

- 1657: Deep Interactive Learning: An Efficient Labeling Approach for Deep Learning-Based Osteosarcoma Treatment Response Assessment
- 1768: Modeling Histological Patterns for Differential Diagnosis of Atypical Breast Lesions
- 1822: Foveation for Segmentation of Mega-pixel Histology Images
- 1967: Multimodal Latent Semantic Alignment for Automated Prostate Tissue Classification and Retrieval
- 684: Graph Attention Multi-instance Learning for Accurate Colorectal Cancer Staging

6th Oct : 16:00 UTC

Clinical Applications // MSK Applications C

- 1365: Inferring the 3D Standing Spine Posture from 2D Radiographs
- 1514: Contour-based Bone Axis Detection for X-Ray Guided Surgery
- 1691: Generative Modelling of 3D in-silico Spongiosa with Controllable Micro-Structural Parameters
- 1692: GAN-based Realistic Bone Ultrasound Image and Label Synthesis for Improved Segmentation
- 2469: Robust Bone Shadow Segmentation from 2D Ultrasound Through Task Decomposition
- 551: SIMBA: Specific Identity Markers for Bone Age Assessment
- 956: Doctor Imitator: A Graph-based Bone Age Assessment Framework Using Hand Radiographs

Computer Aided Diagnosis // Prediction and Diagnosis A

- 1147: Feature-enhanced Graph Networks for Genetic Mutational Prediction Using Histopathological Images in Colon cancer
- 1815: Spatial-And-Context aware (SpACe) "virtual biopsy" radiogenomic maps to target tumor mutational status on structural MRI
- 213: DeepPrognosis: Preoperative Prediction of Pancreatic Cancer Survival and Surgical Margin via Dynamic Contrast-Enhanced CT Imaging
- 2643: CorrSigNet: Learning CORRelated Prostate Cancer SIGnatures from Radiology and Pathology Images for Improved Computer Aided Diagnosis
- 2773: Preoperative prediction of lymph node metastasis from clinical DCE MRI of the primary breast tumor using a 4D CNN
- 404: Holistic Analysis of Abdominal CT for Predicting the Grade of Dysplasia of Pancreatic Lesions

Computer Assisted Intervention // CAI Applications A

- 1523: Inertial Measurements for Motion Compensation in Weight-bearing Cone-beam CT of the Knee
- 1582: Feasibility check: can audio be a simple alternative to force-based feedback for needle guidance?
- 1725: A Graph-Based Method for Optimal Active Electrode Selection in Cochlear Implants
- 2666: Improved resection margins in surgical oncology using intraoperative mass spectrometry
- 2710: Unsupervised Domain Adaptation for Patient-Specific, Real-Time Tissue Tracking
- 2882: An Interactive Mixed Reality Platform for Bedside Surgical Procedures
- 493: Reconstructing Sinus Anatomy from Endoscopic Video -- Towards a Radiation-free Approach for Quantitative Longitudinal Assessment

Machine Learning Methodologies // Uncertainty

- 1758: Probabilistic 3D surface reconstruction from sparse MRI information
- 2605: Can you trust predictive uncertainty under real dataset shifts in digital pathology?
- 2738: Deep Generative Model for Synthetic-CT Generation with Uncertainty Predictions
- 519: Heterogeneity Measurement of Cardiac Tissues Leveraging Uncertainty Information from Image Segmentation
- 827: Efficient Shapley Explanation For Features Importance Estimation Under Uncertainty
- 868: Cartilage Segmentation in High-Resolution 3D Micro-CT Images via Uncertainty-Guided Self-Training with Very Sparse Annotation

Biological/Optical/Microscopic Imaging // Biological/Optical/Microscopic Imaging C

- 1776: Attention based multiple instance learning for classification of blood cell disorders
- 2453: A generative modeling approach for interpreting population-level variability in brain structure
- 2802: Processing-Aware Rendering for Optimized Tissue Visualization in Intraoperative 4D OCT
- 307: 3D reconstruction and segmentation of dissection photographs for MRI-free neuropathology
- 356: DistNet: Deep Tracking by displacement regression: application to bacteria growing in the Mother Machine
- 814: A weakly supervised deep learning approach for detecting malaria and sickle cell anemia in blood films
- 874: Imaging Scattering Characteristics of Tissue in Transmitted Microscopy

Image Reconstruction // Image Reconstruction B

- 1126: Learning MRI k -Space Subsampling Pattern using Progressive Weight Pruning
- 1248: Model-driven Deep Attention Network for Ultra-fast Compressive Sensing MRI Guided by Cross-contrast MR Image
- 1891: Learned Proximal Networks for Quantitative Susceptibility Mapping
- 206: Encoding Metal Mask Projection for Metal Artifact Reduction in Computed Tomography
- 2580: Simultaneous Estimation of X-ray Back-Scatter and Forward-Scatter using Multi-Task Learning
- 358: Acceleration of High-resolution 3D MR Fingerprinting via a Graph Convolutional Network
- 501: Deep Attentive Wasserstein Generative Adversarial Network for MRI Reconstruction with Recurrent Context-Awareness

Machine Learning Methodologies // Generative Adversarial Networks B

- 1593: Generating Dual-energy Subtraction Soft-tissue Images from Chest Radiographs via Bone Edge-guided GAN
- 1826: GANDALF: Generative Adversarial Networks with Discriminator-Adaptive Loss Fine-tuning for Alzheimer's Disease Diagnosis from MRI
- 1892: Brain MR to PET Synthesis via Bidirectional Generative Adversarial Network
- 268: Cycle Structure and Illumination Constrained GAN for Medical Image Enhancement
- 2944: AGAN: An Anatomy Corrector Conditional Generative Adversarial Network for Improving Segmentation of Medical Images
- 340: Flow-based Deformation Guidance for Unpaired Multi-Contrast MRI Image-to-Image Translation
- 37: BR-GAN: Bilateral Residual Generating Adversarial Network for Mammogram Classification

Machine Learning Methodologies // Machine Learning Applications B

- 1021: BUNET: Blind Medical Image Segmentation Based on Secure UNET
- 1239: Temporal-consistent Segmentation of Echocardiography with Co-learning from Appearance and Shape
- 1367: Decision Support for Intoxication Prediction Using Graph Convolutional Networks
- 2128: Latent-Graph Learning for Healthcare Applications
- 411: Distractor-Aware Neuron Intrinsic Learning for Generic 2D Medical Image Classifications
- 537: Large-scale inference of liver fat with neural networks on UK Biobank body MRI

Neuroimaging // DWI and Tractography B

- 1116: Tractogram filtering of anatomically non-plausible fibers with geometric deep learning
- 120: Tract Dictionary Learning for Fast and Robust Recognition of Fiber Bundles
- 122: Globally Optimized Super-Resolution of Diffusion MRI Data via Fiber Continuity
- 882: White Matter Tract Segmentation with Self-supervised Learning
- 952: Estimating Tissue Microstructure with Undersampled Diffusion Data via Graph Convolutional Neural Networks

Segmentation // Segmentation - Cardiac

- 1055: Joint Left Atrial Segmentation and Scar Quantification Based on a DNN with Spatial Encoding and Shape Attention
- 2194: XCAT-GAN for Synthesizing 3D Consistent Labeled Cardiac MR Images on Anatomically Variable XCAT Phantoms
- 543: Efficient and Phase-aware Video Super-resolution for Cardiac MRI
- 611: ImageCHD: A 3D Computed Tomography Image Dataset for Classification of Congenital Heart Disease
- 620: Deep Generative Model-based Quality Control for Cardiac MRI Segmentation
- 910: DeU-Net: Deformable U-Net for 3D Cardiac MRI Video Segmentation
- 993: Learning Directional Feature Maps for Cardiac MRI Segmentation

Biological/Optical/Microscopic Imaging // Histopathology Image Analysis C

- 1263: Tracing Diagnosis Paths on Histology WSIs for Diagnostically Relevant Case Recommendation
- 178: Renal Cell Carcinoma Detection and Subtyping with Minimal Point-Based Annotation in Whole-Slide Images
- 186: Censoring-Aware Deep Ordinal Regression for Survival Prediction from Pathological Images
- 2160: Weakly supervised multiple instance learning histopathological tumor segmentation
- 26: Pairwise Relation Learning for Semi-supervised Gland Segmentation
- 78: Ranking-Based Survival Prediction on Histopathological Whole-Slide Images

Clinical Applications // Ophthalmology C

- 1255: Anterior Segment Eye Lesion Segmentation with Advanced Fusion Strategies and Auxiliary Tasks
- 1508: Cost-Sensitive Regularization for Diabetic Retinopathy Grading from Eye Fundus Images
- 1839: Disentanglement Network for Unsupervised Speckle Reduction of Optical Coherence Tomography Images
- 2015: Positive-Aware Lesion Detection Network with Cross-scale Feature Pyramid for OCT Images
- 2806: Retinal Layer Segmentation Reformulated as OCT Language Processing
- 413: Robust Layer Segmentation against Complex Retinal Abnormalities for en face OCTA Generation

Computer Assisted Intervention // CAI - Video Image Analysis B

- 1242: Two-Stream Deep Feature Modelling for Automated Video Endoscopy Data Analysis
- 1396: Rethinking Anticipation Tasks: Uncertainty-aware Anticipation of Sparse Surgical Instrument Usage for Context-aware Assistance
- 2347: Deep Placental Vessel Segmentation for Fetoscopic Mosaicking
- 2445: Deep Multi-View Stereo for Dense 3D Reconstruction from Monocular Endoscopic Video
- 2549: Endo-Sim2Real: Consistency learning-based domain adaptation for instrument segmentation
- 719: OfGAN: Realistic Rendition of Synthetic Colonoscopy Videos

Machine Learning Methodologies // Attention Models

- 1139: Learning Rich Attention for Pediatric Bone Age Assessment
- 1363: Weakly Supervised Organ Localization with Attention Maps Regularized by Local Area Reconstruction
- 1787: High-order Attention Networks for Medical Image Segmentation
- 1856: NAS-SCAM: Neural Architecture Search Based Spatial and Channel Joint Attention Module for Nuclei Semantic Segmentation and Classification
- 376: Collaborative Learning of Cross-channel Clinical Attention for Radiotherapy-related Esophageal Fistula Prediction from CT
- 446: Learning Bronchiole-Sensitive Airway Segmentation CNNs by Feature Recalibration and Attention Distillation

Machine Learning Methodologies // Student/Teacher Networks

- 1013: Leveraging Undiagnosed Data for Glaucoma Classification with Teacher-Student Learning
- 1015: Difficulty-aware Glaucoma Classification with Multi-Rater Consensus Modeling
- 1780: Intra-operative Forecasting of Growth Modulation Spine Surgery Outcomes with Spatio-Temporal Dynamic Networks
- 2324: Self-supervision on Unlabelled OR Data for Multi-person 2D/3D Human Pose Estimation
- 2614: Knowledge distillation from multi-modal to mono-modal segmentation networks
- 867: Characterizing Label Errors: Confident Learning for Noisy-labeled Image Segmentation

Neuroimaging // Brain Development and Atlases D

- 135: Masked Multi-Task Network for Weakly-Supervised Intracranial Hemorrhage Classification in Brain CT volumes
- 1795: Domain-invariant Prior Knowledge Guided Attention Networks for Robust Skull Stripping of Developing Macaque Brains
- 2223: BDB-Net: Boundary-enhanced Dual Branch Network for Whole Brain Segmentation
- 382: Deep Graph Normalizer: A Geometric Deep Learning Approach for Estimating Connectional Brain Templates
- 421: Supervised Multi-topology Network Cross-diffusion for Population-Driven Brain Network Atlas Estimation
- 470: Partial Volume Segmentation of Brain MRI Scans of any Resolution and Contrast

Clinical Applications // Lung Applications B

- 1870: Cascaded Robust Learning at Imperfect Labels for Chest X-ray Segmentation
- 240: AlignShift: Bridging the Gap of Imaging Thickness in 3D Anisotropic Volumes
- 2846: Deep Active Learning for Effective Pulmonary Nodule Detection
- 327: KISEG: A Three-Stage Segmentation Framework for Multi-level Acceleration of Chest CT Scans from COVID-19 Patients
- 336: Weakly Supervised Learning for interpretable identification of ILD associated CT Findings
- 893: Learning with Sure Data for Nodule-Level Lung Cancer Prediction

Computer Aided Diagnosis // Prediction and Diagnosis B

- 1038: Prediction of Pathological Complete Response to Neoadjuvant Chemotherapy Using Deep Learning with Integrative Imaging, Molecular and Demographic Data
- 1354: Geodesically Smoothed Tensor Features for Pulmonary Hypertension Prognosis using the Heart and Surrounding Tissues
- 1608: Ovarian Cancer Prediction in Proteomic Data Using Stacked Asymmetric Convolution
- 242: Hierarchical Classification of Pulmonary Lesions: A Large-Scale Radio-Pathomics Study
- 243: MIA-Prognosis: A Deep Learning Framework to Predict Therapy Response
- 657: M2Net: Multi-modal Multi-channel Network for Overall Survival Time Prediction of Brain Tumor Patients
- 782: Automatic Detection of Free Intra-Abdominal Air in Computed Tomography

Computer Assisted Intervention // CAI Applications B

- 1309: Malocclusion Treatment Planning via PointNet based Spatial Transformation Network
- 1384: Simulation of Brain Resection for Cavity Segmentation Using Self-Supervised and Semi-Supervised Learning
- 2047: Quantification and Compensation for Tissue Shrinkage in Assessment of Microwave Ablation
- 2191: Reinforcement Learning of Musculoskeletal Control from Functional Simulations
- 355: Ear Cartilage Inference for Reconstructive Surgery with Convolutional Mesh Autoencoders
- 508: Robust Multi-modal 3D Patient Body Modeling
- 639: A New Electromagnetic-Video Endoscope Tracking Method via Anatomical Constraints and Historically Observed Differential Evolution

Machine Learning Methodologies // Semi-supervised learning C

- 1154: Knowledge-guided Pretext Learning for Utero-placental Interface Detection
- 1202: Self-supervised Depth Estimation to Regularise Semantic Segmentation in Knee Arthroscopy
- 1597: Semi-supervised Medical Image Classification with Global Latent Mixing
- 1833: Self-Loop Uncertainty: A Novel Pseudo-Label for Semi-Supervised Medical Image Segmentation
- 1927: Semi-Supervised Radiology Image Classification with NoTeacher: When the Teacher is No Longer Mean
- 2775: Predicting Potential Propensity of Adolescents to Drugs via New Semi-Supervised Deep Ordinal Regression Model

PET // PET

- 1161: Multi-Modality Information Fusion for Radiomics-based Neural Architecture Search
- 1878: Lymph Node Gross Tumor Volume Detection in Oncology Imaging via Relationship Learning Using Graph Neural Network
- 2164: Rethinking PET Image Reconstruction: Ultra-Low-Dose, Sinogram and Deep Learning
- 2528: Clinically Translatable Direct Patlak Reconstruction from Dynamic PET with Motion Correction Using Convolutional Neural Network
- 59: Simultaneous Denoising and Motion Estimation for Low-dose Gated PET using a Siamese Adversarial Network with Gate-to-Gate Consistency Learning
- 850: Collimatorless Scintigraphy for Imaging Extremely Low Activity Targeted Alpha Therapy (TAT) with Weighted Robust Least Square (WRLS)
- 89: Lymph Node Gross Tumor Volume Detection and Segmentation via Distance-based Gating using 3D CT/PET Imaging in Radiotherapy

Segmentation // Segmentation - General D

- 1096: Voxel2Mesh: 3D Mesh Model Generation from Volumetric Data
- 1284: Pay More Attention to Discontinuity for Medical Image Segmentation
- 1408: Unsupervised Learning for CT Image Segmentation via Adversarial Redrawing
- 1467: Deep Active Contour Network for Medical Image Segmentation
- 2624: Learning Crisp Edge Detector Using Logical Refinement Network
- 2642: Defending Deep Learning-based Biomedical Image Segmentation from Adversarial Attacks: A Low-cost Frequency Refinement Approach
- 805: Widening the focus: biomedical image segmentation challenges and the underestimated role of patch sampling and inference strategies

Clinical Applications // Angiography B

- 1300: Time matters: handling spatio-temporal perfusion information for automated TIC1 scoring
- 1433: ID-Fit: Intra-saccular Device adjustment for personalized cerebral aneurysm treatment
- 1439: JointVesselNet: Joint Volume-Projection Convolutional Embedding Networks for 3D Cerebrovascular Segmentation
- 2367: Vascular surface segmentation for intracranial aneurysm isolation and quantification
- 453: Automated Intracranial Artery Labeling using a Graph Neural Network and Hierarchical Refinement

Image Registration // Image Registration C

- 108: Are Registration Uncertainty and Error Monotonically Associated?
- 1103: Biomechanics-informed Neural Networks for Myocardial Motion Tracking in MRI
- 1194: Fluid registration between lung CT and stationary chest tomosynthesis images
- 1756: Anatomical Data Augmentation via Fluid-based Image Registration
- 758: MR-to-US registration using multiclass segmentation of hepatic vasculature with a reduced 3D U-Net
- 800: Detecting Pancreatic Ductal Adenocarcinoma in Multi-phase CT Scans via Alignment Ensemble

Machine Learning Methodologies // Advances in Machine Learning Theory B

- 1290: Learning joint shape and appearance representations with metamorphic auto-encoders
- 408: Learning Semantics-enriched Representation via Self-discovery, Self-classification, and Self-restoration
- 596: DECAPS: Detail-oriented Capsule Networks
- 700: Federated Simulation for Medical Imaging
- 726: Continual Learning of New Diseases with Dual Distillation and Ensemble Strategy
- 928: Learning to Segment When Experts Disagree
- 976: Deep Disentangled Hashing with Momentum Triplets for Neuroimage Search

Neuroimaging // Neuroimaging C

- 1257: Hierarchical Bayesian Regression for Multi-Site Normative Modeling of Neuroimaging Data
- 148: MAGIC: Multi-scale Heterogeneity Analysis and Clustering for Brain Diseases
- 1482: Image-level Harmonization of Multi-Site Data using Image-and-Spatial Transformer Networks
- 1532: A Disentangled Latent Space for Cross-Site MRI Harmonization
- 2677: Automated Acquisition Planning for Magnetic Resonance Spectroscopy in Brain Cancer
- 51: Spatial Component Analysis to Mitigate Multiple Testing in Voxel-Based Analysis
- 597: PIANO: Perfusion Imaging via Advection-diffusion

7th Oct : 15:30 UTC

Biological/Optical/Microscopic Imaging // Biological/Optical/Microscopic Imaging D

- 1746: Microtubule Tracking in Electron Microscopy Volumes
- 239: MitoEM Dataset: Large-scale 3D Mitochondria Instance Segmentation from EM Images
- 2750: Leveraging Tools from Autonomous Navigation for Rapid, Robust Neuron Connectivity
- 2963: Statistical Atlas of C.elegans Neurons
- 2964: Probabilistic Segmentation and Labeling of C. elegans Neurons
- 797: Neuronal Subcompartment Classification and Merge Error Correction

Computer Assisted Intervention // CAI - Video Image Analysis C

- 1072: Toward Rapid Stroke Diagnosis with Multimodal Deep Learning
- 1117: Learning and Reasoning with the Graph Structure Representation in Robotic Surgery
- 1150: Vision-based Estimation of UPDRS Gait Scores for Assessing Parkinson's Disease Progression
- 2847: Searching for Efficient Architecture for Instrument Segmentation in Robotic Surgery
- 548: ISINet: An Instance-Based Approach for Surgical Instrument Segmentation
- 823: Reliable Liver Fibrosis Assessment from Ultrasound using Global Hetero-Image Fusion and View-Specific Parameterization

Image Reconstruction // Image Reconstruction C

- 1381: T2 Mapping from Super-Resolution-Reconstructed Clinical Fast Spin Echo Magnetic Resonance Acquisitions
- 275: 3d-SMRnet: Achieving a new quality of MPI system matrix recovery by deep learning
- 2789: Learning a Gradient Guidance for Spatially Isotropic MRI Super-Resolution Reconstruction
- 344: MRI Image Reconstruction via Learning Optimization using Neural ODEs
- 396: An evolutionary framework for microstructure-sensitive generalized diffusion gradient waveforms
- 507: Lesion Mask-based Simultaneous Synthesis of Anatomic and Molecular MR Images using a GAN

7th Oct : 16:00 UTC

Biological/Optical/Microscopic Imaging // Cell Segmentation and Stain Normalization B

- 1166: Multi-Field of View Aggregation and Context Encoding for Single-Stage Nucleus Recognition
- 2518: Self-Supervised Nuclei Segmentation in Histopathological Images Using Attention
- 2844: High Efficiency Focus Quality Assessment for Digital Pathology
- 599: StyPath: Style-Transfer Data Augmentation For Robust Histology Image Classification
- 835: Multimarginal Wasserstein Barycenter for Stain Normalization and Augmentation
- 997: Corruption-Robust Enhancement of Deep Neural Networks for Classification of Peripheral Blood Smear Images

Clinical Applications // Heart and Lung

- 1299: A Bottom-up Approach for Real-time Mitral Valve Annulus Modeling on 3D Echo Images
- 1683: A Semi-supervised Joint Network for Simultaneous Left Ventricular Motion Tracking and Segmentation in 4D Echocardiography
- 1747: Learning cardiovascular dynamics from clinical and neuroimaging data
- 207: Accelerated 4D Respiratory Motion-resolved Cardiac MRI with a Model-based Variational Network
- 2300: Learning Geometry-Dependent and Physics-Based Inverse Image Reconstruction
- 406: Motion Pyramid Networks for Accurate and Efficient Cardiac Motion Estimation
- 702: ICA-UNet: ICA Inspired Statistical UNet for Real-time 3D Cardiac Cine MRI Segmentation

Machine Learning Methodologies // Cross-Domain Methods and Reconstruction

- 1260: Dynamic memory to alleviate catastrophic forgetting in continuous learning settings
- 1268: Unlearning Scanner Bias for MRI Harmonisation
- 1621: Self-supervised Skull Reconstruction in Brain CT Images with Decompressive Craniectomy
- 2501: X2Teeth: 3D Teeth Reconstruction from a Single Panoramic Radiograph
- 2756: Domain Adaptation for Ultrasound Beamforming
- 2795: CDF-Net: Cross-Domain Fusion Network for accelerated MRI reconstruction
- 842: Unified cross-modality feature disentangler for unsupervised multi-domain MRI abdomen organs segmentation

Neuroimaging // Functional Brain Networks C

- 1596: Global Diffeomorphic Phase Alignment of Time-series from Resting-state fMRI Data
- 1784: Spatial-Temporal Graph Convolution for Functional MRI Analysis
- 2558: A shared neural encoding model for the prediction of subject-specific fMRI response
- 488: Detecting Changes of Functional Connectivity by Dynamic Graph Embedding Learning
- 788: Discovering Functional Brain Networks with 3D Residual Autoencoder (ResAE)
- 794: Spatiotemporal Attention Autoencoder (STAAE) for ADHD Classification