Rachel Sparks

List of Publications by Year
in descending order

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65 papers	1,249 citations	430874 18 h-index	395702 33 g-index
65 all docs	65 docs citations	65 times ranked	1534 citing authors

#	Article	IF	Citations
1	TorchIO: A Python library for efficient loading, preprocessing, augmentation and patch-based sampling of medical images in deep learning. Computer Methods and Programs in Biomedicine, 2021, 208, 106236.	4.7	257
2	Accuracy of intracranial electrode placement for stereoelectroencephalography: A systematic review and metaâ€analysis. Epilepsia, 2017, 58, 921-932.	5.1	124
3	Association of Piriform Cortex Resection With Surgical Outcomes in Patients With Temporal Lobe Epilepsy. JAMA Neurology, 2019, 76, 690.	9.0	69
4	Co-Occurring Gland Angularity in Localized Subgraphs: Predicting Biochemical Recurrence in Intermediate-Risk Prostate Cancer Patients. PLoS ONE, 2014, 9, e97954.	2.5	53
5	Automated trajectory planning for laser interstitial thermal therapy in mesial temporal lobe epilepsy. Epilepsia, 2018, 59, 814-824.	5.1	52
6	Utility of 3D multimodality imaging in the implantation ofÂintracranial electrodes in epilepsy. Epilepsia, 2015, 56, 403-413.	5.1	50
7	Explicit shape descriptors: Novel morphologic features for histopathology classification. Medical Image Analysis, 2013, 17, 997-1009.	11.6	40
8	Automated multiple trajectory planning algorithm for the placement of stereo-electroencephalography (SEEG) electrodes in epilepsy treatment. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 123-136.	2.8	37
9	Anatomy-driven multiple trajectory planning (ADMTP) of intracranial electrodes for epilepsy surgery. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 1245-1255.	2.8	34
10	Computer-assisted planning for the insertion of stereoelectroencephalography electrodes for the investigation of drug-resistant focal epilepsy: an external validation study. Journal of Neurosurgery, 2018, , 1-10.	1.6	33
11	A crowdsourcing approach for reusing and meta-analyzing gene expression data. Nature Biotechnology, 2016, 34, 803-806.	17.5	32
12	Statistical shape model for manifold regularization: Gleason grading of prostate histology. Computer Vision and Image Understanding, 2013, 117, 1138-1146.	4.7	31
13	Comparison of computer-assisted planning and manual planning for depth electrode implantations in epilepsy. Journal of Neurosurgery, 2016, 124, 1820-1828.	1.6	31
14	Optimizing Trajectories for Cranial Laser Interstitial Thermal Therapy Using Computer-Assisted Planning: A Machine Learning Approach. Neurotherapeutics, 2019, 16, 182-191.	4.4	27
15	Automatic segmentation of stereoelectroencephalography (SEEG) electrodes post-implantation considering bending. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 935-946.	2.8	24
16	Stereoelectroencephalography electrode placement: Detection of blood vessel conflicts. Epilepsia, 2019, 60, 1942-1948.	5.1	19
17	Automated fiber tract reconstruction for surgery planning: Extensive validation in language-related white matter tracts. NeuroImage: Clinical, 2019, 23, 101883.	2.7	19
18	Comparison of robotic and manual implantation of intracerebral electrodes: a single-centre, single-blinded, randomised controlled trial. Scientific Reports, 2021, 11, 17127.	3.3	19

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19	Out-of-Sample Extrapolation utilizing Semi-Supervised Manifold Learning (OSE-SSL): Content Based Image Retrieval for Histopathology Images. Scientific Reports, 2016, 6, 27306.	3.3	18
20	Neuropathic Tissue Responds Preferentially to Stimulation by Intense Focused Ultrasound. Ultrasound in Medicine and Biology, 2013, 39, 111-116.	1.5	16
21	Computer-Assisted Planning for Stereoelectroencephalography (SEEG). Neurotherapeutics, 2019, 16, 1183-1197.	4.4	16
22	Fully automated prostate magnetic resonance imaging and transrectal ultrasound fusion via a probabilistic registration metric. , 2013, 8671, .		15
23	Multicenter validation of automated trajectories for selective laser amygdalohippocampectomy. Epilepsia, 2019, 60, 1949-1959.	5.1	15
24	Brainâ€“Machine Interfaces: The Role of the Neurosurgeon. World Neurosurgery, 2021, 146, 140-147.	1.3	15
25	Multiattribute probabilistic prostate elastic registration (MAPPER): Application to fusion of ultrasound and magnetic resonance imaging. Medical Physics, 2015, 42, 1153-1163.	3.0	12
26	Novel Morphometric Based Classification via Diffeomorphic Based Shape Representation Using Manifold Learning. Lecture Notes in Computer Science, 2010, 13, 658-665.	1.3	12
27	A Pipeline for 3D Multimodality Image Integration and Computer-assisted Planning in Epilepsy Surgery. Journal of Visualized Experiments, 2016, , .	0.3	11
28	Resection planning in extratemporal epilepsy surgery using 3D multimodality imaging and intraoperative MRI. British Journal of Neurosurgery, 2017, 31, 468-470.	0.8	11
29	Improving patient safety during introduction of novel medical devices through cumulative summation analysis. Journal of Neurosurgery, 2018, 130, 213-219.	1.6	11
30	The Effect of Vascular Segmentation Methods on Stereotactic Trajectory Planning for Drug-Resistant Focal Epilepsy: A Retrospective Cohort Study. World Neurosurgery: X, 2019, 4, 100057.	1.1	10
31	Enhancing the estimation of fiber orientation distributions using convolutional neural networks. Computers in Biology and Medicine, 2021, 135, 104643.	7.0	10
32	High-Throughput Prostate Cancer Gland Detection, Segmentation, and Classification from Digitized Needle Core Biopsies. Lecture Notes in Computer Science, 2010, , 77-88.	1.3	10
33	Machine Learning for Localizing Epileptogenic-Zone in the Temporal Lobe: Quantifying the Value of Multimodal Clinical-Semiology and Imaging Concordance. Frontiers in Digital Health, 2021, 3, 559103.	2.8	9
34	Computer-assisted planning for minimally invasive anterior two-thirds laser corpus callosotomy: A feasibility study with probabilistic tractography validation. NeuroImage: Clinical, 2020, 25, 102174.	2.7	8
35	Computer-Assisted Versus Manual Planning for Stereotactic Brain Biopsy: A Retrospective Comparative Pilot Study. Operative Neurosurgery, 2020, 18, 417-422.	0.8	8
36	Probabilistic landscape of seizure semiology localizing values. Brain Communications, 2022, 4, .	3.3	7

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37	Segmentation of nodular medulloblastoma using Random Walker and Hierarchical Normalized Cuts. , 2011, , .		6
38	Gleason grading of prostate histology utilizing manifold regularization via statistical shape model of manifolds. , 2012, , .		6
39	Intense focused ultrasound stimulation can safely stimulate inflamed subcutaneous tissue and assess allodynia. Journal of Therapeutic Ultrasound, 2014, 2, 8.	2.2	6
40	Transfer Learning of Deep Spatiotemporal Networks to Model Arbitrarily Long Videos of Seizures. Lecture Notes in Computer Science, 2021, , 334-344.	1.3	6
41	Anisotropic smoothing regularization (AnSR) in Thirion's Demons registration evaluates brain MRI tissue changes post-laser ablation. , 2013, 2013, 4006-9.		5
42	A self-supervised learning strategy for postoperative brain cavity segmentation simulating resections. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 1653-1661.	2.8	5
43	Simulation of Brain Resection for Cavity Segmentation Using Self-supervised and Semi-supervised Learning. Lecture Notes in Computer Science, 2020, , 115-125.	1.3	5
44	Connecting Markov random fields and active contour models: application to gland segmentation and classification. Journal of Medical Imaging, 2017, 4, 021107.	1.5	4
45	Patient-specific prediction of SEEG electrode bending for stereotactic neurosurgical planning. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 789-798.	2.8	4
46	Intraoperative overlay of optic radiation tractography during anteromesial temporal resection: a prospective validation study. Journal of Neurosurgery, 2022, 136, 543-552.	1.6	4
47	Co-occurring gland tensors in localized cluster graphs: Quantitative histomorphometry for predicting biochemical recurrence for intermediate grade prostate cancer. , 2013, , .		3
48	Identifying in vivo DCE MRI parameters correlated with ex vivo quantitative microvessel architecture: A radiohistomorphometric approach. , 2013, , .		3
49	A Machine Learning Approach to Predict Instrument Bending in Stereotactic Neurosurgery. Lecture Notes in Computer Science, 2018, , 238-246.	1.3	3
50	Automated computation and analysis of accuracy metrics in stereoencephalography. Journal of Neuroscience Methods, 2020, 340, 108710.	2.5	3
51	Convolutional Neural Networks for Fiber Orientation Distribution Enhancement toÂImprove Single-Shell Diffusion MRI Tractography. Mathematics and Visualization, 2020, , 101-112.	0.6	3
52	Content-based image retrieval utilizing explicit shape descriptors: applications to breast MRI and prostate histopathology. Proceedings of SPIE, 2011, , .	0.8	2
53	Towards Uncertainty Quantification for Electrode Bending Prediction in Stereotactic Neurosurgery. , 2020, , .		2
54	A generative model of hyperelastic strain energy density functions for multiple tissue brain deformation. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 141-150.	2.8	2

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55	Occipitocervical instrumented fixation utilising patient-specific C2 3D-printed spinal screw trajectory guides in complex paediatric skeletal dysplasia. Child's Nervous System, 2021, 37, 2643-2650.	1.1	2
56	Efficient Anatomy Driven Automated Multiple Trajectory Planning for Intracranial Electrode Implantation. Lecture Notes in Computer Science, 2016, , 542-550.	1.3	2
57	Informative and Reliable Tract Segmentation for Preoperative Planning. Frontiers in Radiology, 2022, 2, .	2.0	2
58	An integrated framework for analyzing three-dimensional shape differences: Evaluating prostate morphometry. , 2010, , .		1
59	Medial axis based statistical shape model (MASSM): Applications to 3D prostate segmentation on MRI. , 2011, , .		1
60	Out-of-sample extrapolation using semi-supervised manifold learning (OSE-SSL): Content-based image retrieval for prostate histology grading. , 2011, , .		1
61	Spectral embedding-based registration (SERg) for multimodal fusion of prostate histology and MRI. , 2014, , .		1
62	A Generative Model of Hyperelastic Strain Energy Density Functions for Real-Time Simulation of Brain Tissue Deformation. Lecture Notes in Computer Science, 2019, , 218-226.	1.3	1
63	Correction to: Transfer Learning of Deep Spatiotemporal Networks to Model Arbitrarily Long Videos of Seizures. Lecture Notes in Computer Science, 2021, , C1-C1.	1.3	1
64	Spatially aware expectation maximization (SpAEM): application to prostate TRUS segmentation. Proceedings of SPIE, 2014, , .	0.8	0
65	012â€... Structural connectivity informed stereoelectroencephalography (SEEG) electrode targeting in suspected pseudotemporal and temporal plus epilepsy. Journal of Neurology, Neurosurgery and Psychiatry, 2022, 93, A104.3-A104.	1.9	0