Bernhard K Kainz

List of Publications by Citations

98 papers	2,812 citations	22 h-index	51 g-index
112 ext. papers	3,837 ext. citations	3.8 avg, IF	5.42 L-index

#	Paper	IF	Citations
98	Attention gated networks: Learning to leverage salient regions in medical images. *Medical Image Analysis*, **2019**, 53, 197-207	15.4	400
97	Anatomically Constrained Neural Networks (ACNNs): Application to Cardiac Image Enhancement and Segmentation. *IEEE Transactions on Medical Imaging*, **2018**, 37, 384-395	11.7	333
96	Automated cardiovascular magnetic resonance image analysis with fully convolutional networks. *Journal of Cardiovascular Magnetic Resonance*, **2018**, 20, 65	6.9	285
95	Magnetic resonance-derived 3-dimensional blood flow patterns in the main pulmonary artery as a marker of pulmonary hypertension and a measure of elevated mean pulmonary arterial pressure. *Circulation: Cardiovascular Imaging*, **2008**, 1, 23-30	3.9	168
94	Ensembles of Multiple Models and Architectures for Robust Brain Tumour Segmentation. *Lecture Notes in Computer Science*, **2018**, 450-462	0.9	164
93	DeepCut: Object Segmentation From Bounding Box Annotations Using Convolutional Neural Networks. *IEEE Transactions on Medical Imaging*, **2017**, 36, 674-683	11.7	146
92	SonoNet: Real-Time Detection and Localisation of Fetal Standard Scan Planes in Freehand Ultrasound. *IEEE Transactions on Medical Imaging*, **2017**, 36, 2204-2215	11.7	145
91	Fast Volume Reconstruction From Motion Corrupted Stacks of 2D Slices. *IEEE Transactions on Medical Imaging*, **2015**, 34, 1901-13	11.7	100
90	Evaluating reinforcement learning agents for anatomical landmark detection. *Medical Image Analysis*, **2019**, 53, 156-164	15.4	68
89	Automated fetal brain segmentation from 2D MRI slices for motion correction. *NeuroImage*, **2014**, 101, 633-43	7.9	60
88	Automated quality control in image segmentation: application to the UK Biobank cardiovascular magnetic resonance imaging study. *Journal of Cardiovascular Magnetic Resonance*, **2019**, 21, 18	6.9	49
87	A survey on active learning and human-in-the-loop deep learning for medical image analysis. *Medical Image Analysis*, **2021**, 71, 102062	15.4	43
86	Three-dimensional visualisation of the fetal heart using prenatal MRI with motion-corrected slice-volume registration: a prospective, single-centre cohort study. *Lancet, The*, **2019**, 393, 1619-1627	40	41
85	Stresses and strains on the human fetal skeleton during development. *Journal of the Royal Society Interface*, **2018**, 15,	4.1	35
84	3-D Reconstruction in Canonical Co-Ordinate Space From Arbitrarily Oriented 2-D Images. *IEEE Transactions on Medical Imaging*, **2018**, 37, 1737-1750	11.7	32
83	Softshell. *ACM Transactions on Graphics*, **2012**, 31, 1-11	7.6	32
82	OmniKinect **2012**,		30

81	Federated deep learning for detecting COVID-19 lung abnormalities in CT: a privacy-preserving multinational validation study. *Npj Digital Medicine*, **2021**, 4, 60	15.7	29
80	Real-Time Standard Scan Plane Detection and Localisation in Fetal Ultrasound Using Fully Convolutional Neural Networks. *Lecture Notes in Computer Science*, **2016**, 203-211	0.9	26
79	Fast Fully Automatic Segmentation of the Human Placenta from Motion Corrupted MRI. *Lecture Notes in Computer Science*, **2016**, 589-597	0.9	25
78	Predicting Slice-to-Volume Transformation in Presence of Arbitrary Subject Motion. *Lecture Notes in Computer Science*, **2017**, 296-304	0.9	25
77	PVR: Patch-to-Volume Reconstruction for Large Area Motion Correction of Fetal MRI. *IEEE Transactions on Medical Imaging*, **2017**, 36, 2031-2044	11.7	22
76	Multiple Landmark Detection Using Multi-agent Reinforcement Learning. *Lecture Notes in Computer Science*, **2019**, 262-270	0.9	22
75	Weakly Supervised Estimation of Shadow Confidence Maps in Fetal Ultrasound Imaging. *IEEE Transactions on Medical Imaging*, **2019**, 38, 2755-2767	11.7	21
74	Automatic View Planning with Multi-scale Deep Reinforcement Learning Agents. *Lecture Notes in Computer Science*, **2018**, 277-285	0.9	20
73	Fast Multiple Landmark Localisation Using a Patch-based Iterative Network. *Lecture Notes in Computer Science*, **2018**, 2018, 563-571	0.9	20
72	ScatterAlloc: Massively parallel dynamic memory allocation for the GPU **2012**,		19
71	Placenta Maps: In Utero Placental Health Assessment of the Human Fetus. *IEEE Transactions on Visualization and Computer Graphics*, **2017**, 23, 1612-1623	4	18
70	Ray casting of multiple volumetric datasets with polyhedral boundaries on manycore GPUs. *ACM Transactions on Graphics*, **2009**, 28, 1-9	7.6	18
69	Standard Plane Detection in 3D Fetal Ultrasound Using an Iterative Transformation Network. *Lecture Notes in Computer Science*, **2018**, 392-400	0.9	18
68	Human-level Performance On Automatic Head Biometrics In Fetal Ultrasound Using Fully Convolutional Neural Networks. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2018**, 2018, 714-717	0.9	17
67	Altered biomechanical stimulation of the developing hip joint in presence of hip dysplasia risk factors. *Journal of Biomechanics*, **2018**, 78, 1-9	2.9	16
66	On-the-fly generation and rendering of infinite cities on the GPU. *Computer Graphics Forum*, **2014**, 33, 105-114	2.4	16
65	Parallel generation of architecture on the GPU. *Computer Graphics Forum*, **2014**, 33, 73-82	2.4	16
64	Crepuscular rays for tumor accessibility planning. *IEEE Transactions on Visualization and Computer Graphics*, **2011**, 17, 2163-72	4	15

63	Motion corrected 3D reconstruction of the fetal thorax from prenatal MRI. *Lecture Notes in Computer Science*, **2014**, 17, 284-91	0.9	15
62	Real-Time Prediction of Segmentation Quality. *Lecture Notes in Computer Science*, **2018**, 578-585	0.9	14
61	3D Fetal Skull Reconstruction from 2DUS via Deep Conditional Generative Networks. *Lecture Notes in Computer Science*, **2018**, 383-391	0.9	14
60	Spatio-temporal geometry fusion for multiple hybrid cameras using moving least squares surfaces. *Computer Graphics Forum*, **2014**, 33, 1-10	2.4	13
59	Interactive Volumetry Of Liver Ablation Zones. *Scientific Reports*, **2015**, 5, 15373	4.9	11
58	Automatic Differentiation for GPU-Accelerated 2D/3D Registration. *Lecture Notes in Computational Science and Engineering*, **2008**, 259-269	0.3	11
57	Deep radiance caching: Convolutional autoencoders deeper in ray tracing. *Computers and Graphics*, **2021**, 94, 22-31	1.8	11
56	Noise-based volume rendering for the visualization of multivariate volumetric data. *IEEE Transactions on Visualization and Computer Graphics*, **2013**, 19, 2926-35	4	10
55	Fast fully automatic brain detection in fetal MRI using dense rotation invariant image descriptors **2014**,		9
54	Vessel segmentation for ablation treatment planning and simulation. *Lecture Notes in Computer Science*, **2010**, 13, 45-52	0.9	9
53	Confident Head Circumference Measurement from Ultrasound with Real-Time Feedback for Sonographers. *Lecture Notes in Computer Science*, **2019**, 683-691	0.9	9
52	Automated Localization of Fetal Organs in MRI Using Random Forests with Steerable Features. *Lecture Notes in Computer Science*, **2015**, 620-627	0.9	9
51	Context-Sensitive Super-Resolution for Fast Fetal Magnetic Resonance Imaging. *Lecture Notes in Computer Science*, **2017**, 116-126	0.9	9
50	Fast marker based C-Arm pose estimation. *Lecture Notes in Computer Science*, **2008**, 11, 652-9	0.9	9
49	Mutual Information-Based Disentangled Neural Networks for Classifying Unseen Categories in Different Domains: Application to Fetal Ultrasound Imaging. *IEEE Transactions on Medical Imaging*, **2021**, 40, 722-734	11.7	8
48	Computing CNN Loss and Gradients for Pose Estimation with Riemannian Geometry. *Lecture Notes in Computer Science*, **2018**, 756-764	0.9	7
47	Automatic Brain Localization in Fetal MRI Using Superpixel Graphs. *Lecture Notes in Computer Science*, **2015**, 13-22	0.9	7
46	Ultrasound Video Transformers for Cardiac Ejection Fraction Estimation. *Lecture Notes in Computer Science*, **2021**, 495-505	0.9	7

45	Procedural Texture Synthesis for Zoom-Independent Visualization of Multivariate Data. *Computer Graphics Forum*, **2012**, 31, 1355-1364	2.4	6
44	RFA-cut: Semi-automatic segmentation of radiofrequency ablation zones with and without needles via optimal s-t-cuts. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 2423-9	0.9	6
43	Ray casting of multiple volumetric datasets with polyhedral boundaries on manycore GPUs **2009**,		6
42	AutoDVT: Joint Real-Time Classification for Vein Compressibility Analysis in Deep Vein Thrombosis Ultrasound Diagnostics. *Lecture Notes in Computer Science*, **2018**, 905-912	0.9	6
41	Ultrasound Video Summarization Using Deep Reinforcement Learning. *Lecture Notes in Computer Science*, **2020**, 483-492	0.9	6
40	Flexible Reconstruction and Correction of Unpredictable Motion from Stacks of 2D Images. *Lecture Notes in Computer Science*, **2015**, 555-562	0.9	6
39	Fetal Skull Segmentation in 3D Ultrasound via Structured Geodesic Random Forest. *Lecture Notes in Computer Science*, **2017**, 25-32	0.9	5
38	RATCHET: Medical Transformer for Chest X-ray Diagnosis and Reporting. *Lecture Notes in Computer Science*, **2021**, 293-303	0.9	5
37	Automatic Shadow Detection in 2D Ultrasound Images. *Lecture Notes in Computer Science*, **2018**, 66-75	0.9	5
36	Non-invasive diagnosis of deep vein thrombosis from ultrasound imaging with machine learning. *Npj Digital Medicine*, **2021**, 4, 137	15.7	5
35	Detecting Outliers with Poisson Image Interpolation. *Lecture Notes in Computer Science*, **2021**, 581-591	0.9	5
34	Artificial intelligence, fetal echocardiography, and congenital heart disease. *Prenatal Diagnosis*, **2021**, 41, 733-742	3.2	4
33	High-resolution contrast enhanced multi-phase hepatic Computed Tomography data fromaporcine Radio-Frequency Ablation study **2014**,		3
32	Parallel Irradiance Caching for Interactive Monte-Carlo Direct Volume Rendering. *Computer Graphics Forum*, **2014**, 33, 61-70	2.4	3
31	Intervention Planning of Hepatocellular Carcinoma Radio-Frequency Ablations. *Lecture Notes in Computer Science*, **2013**, 9-16	0.9	3
30	Complete Fetal Head Compounding from Multi-view 3D Ultrasound. *Lecture Notes in Computer Science*, **2019**, 384-392	0.9	3
29	Representation Disentanglement for Multi-task Learning with Application to Fetal Ultrasound. *Lecture Notes in Computer Science*, **2019**, 47-55	0.9	3
28	PialNN: A Fast Deep Learning Framework for Cortical Pial Surface Reconstruction. *Lecture Notes in Computer Science*, **2021**, 73-81	0.9	3

27	Prenatal MRI visualisation of the aortic arch and fetal vasculature using motion-corrected slice-to-volume reconstruction. *Journal of Cardiovascular Magnetic Resonance*, **2016**, 18,	6.9	2
26	Ray prioritization using stylization and visual saliency. *Computers and Graphics*, **2012**, 36, 673-684	1.8	2
25	Semi-supervised Learning of Fetal Anatomy from Ultrasound. *Lecture Notes in Computer Science*, **2019**, 157-164	0.9	2
24	Unsupervised Cross-domain Image Classification by Distance Metric Guided Feature Alignment. *Lecture Notes in Computer Science*, **2020**, 146-157	0.9	2
23	Towards automated extraction of 2D standard fetal head planes from 3D ultrasound acquisitions: A clinical evaluation and quality assessment comparison. *Radiography*, **2021**, 27, 519-526	2	2
22	Exploring the Relationship Between Segmentation Uncertainty, Segmentation Performance and Inter-observer Variability with Probabilistic Networks. *Lecture Notes in Computer Science*, **2019**, 51-60	0.9	2
21	Machine learning for the automatic localisation of foetal body parts in cine-MRI scans **2015**,		1
20	In vivo interactive visualization of four-dimensional blood flow patterns. *Visual Computer*, **2009**, 25, 853-862	2.7	1
19	Stylization-based ray prioritization for guaranteed frame rates **2011**,		1
18	PRETUS: A plug-in based platform for real-time ultrasound imaging research. *SoftwareX*, **2022**, 17, 100958	2.7	1
17	Surface Agnostic Metrics for Cortical Volume Segmentation and Regression. *Lecture Notes in Computer Science*, **2020**, 3-12	0.9	1
16	Automatic Detection of Bowel Disease with Residual Networks. *Lecture Notes in Computer Science*, **2019**, 151-159	0.9	1
15	Automated Detection of Congenital Heart Disease in Fetal Ultrasound Screening. *Lecture Notes in Computer Science*, **2020**, 243-252	0.9	1
14	3D Probabilistic Segmentation and Volumetry from 2D Projection Images. *Lecture Notes in Computer Science*, **2020**, 48-57	0.9	1
13	Volume Visualization in the Clinical Practice. *Lecture Notes in Computer Science*, **2012**, 74-84	0.9	1
12	CAS-Net: Conditional Atlas Generation and Brain Segmentation for Fetal MRI. *Lecture Notes in Computer Science*, **2021**, 221-230	0.9	1
11	Non-invasive Diagnosis of Deep Vein Thrombosis from Ultrasound with Machine Learning		1
10	EchoFusion: Tracking and Reconstruction of Objects in 4D Freehand Ultrasound Imaging Without External Trackers. *Lecture Notes in Computer Science*, **2018**, 117-127	0.9	1

9	Detecting Hypo-plastic Left Heart Syndrome in Fetal Ultrasound via Disease-Specific Atlas Maps. *Lecture Notes in Computer Science*, **2021**, 207-217	0.9	1
8	Contrastive Learning for View Classification of Echocardiograms. *Lecture Notes in Computer Science*, **2021**, 149-158	0.9	1
7	Computer oriented image acquisition of the liver: Toward a better numerical model for radiofrequency ablation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 3755-8	0.9	0
6	Projective Latent Interventions for Understanding and Fine-Tuning Classifiers. *Lecture Notes in Computer Science*, **2020**, 13-22	0.9	0
5	Can Non-specialists Provide High Quality Gold Standard Labels in Challenging Modalities?. *Lecture Notes in Computer Science*, **2021**, 251-262	0.9	0
4	Volumetric Real-Time Particle-Based Representation of Large Unstructured Tetrahedral Polygon Meshes. *Lecture Notes in Computer Science*, **2012**, 159-168	0.9	
3	Image Registration via Stochastic Gradient Markov Chain Monte Carlo. *Lecture Notes in Computer Science*, **2020**, 3-12	0.9	
2	Flexible Conditional Image Generation of Missing Data with Learned Mental Maps. *Lecture Notes in Computer Science*, **2019**, 139-150	0.9	
1	MetaDetector: Detecting Outliers by Learning to Learn from Self-supervision. *Lecture Notes in Computer Science*, **2022**, 119-126	0.9	