Mehmet Akcakaya

List of Publications by Year
in descending order

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100 papers	2,963 citations	186265 28 h-index	189892 50 g-index
101 all docs	101 docs citations	101 times ranked	2691 citing authors

#	Article	IF	Citations
1	Scanâ€specific robust artificialâ€neuralâ€networks for kâ€space interpolation (RAKI) reconstruction: Databaseâ€free deep learning for fast imaging. Magnetic Resonance in Medicine, 2019, 81, 439-453.	3.0	253
2	Deep-Learning Methods for Parallel Magnetic Resonance Imaging Reconstruction: A Survey of the Current Approaches, Trends, and Issues. IEEE Signal Processing Magazine, 2020, 37, 128-140.	5.6	213
3	Combined saturation/inversion recovery sequences for improved evaluation of scar and diffuse fibrosis in patients with arrhythmia or heart rate variability. Magnetic Resonance in Medicine, 2014, 71, 1024-1034.	3.0	149
4	Shannon-Theoretic Limits on Noisy Compressive Sampling. IEEE Transactions on Information Theory, 2010, 56, 492-504.	2.4	142
5	Selfâ€supervised learning of physicsâ€guided reconstruction neural networks without fully sampled reference data. Magnetic Resonance in Medicine, 2020, 84, 3172-3191.	3.0	133
6	Lowâ€dimensionalâ€structure selfâ€learning and thresholding: Regularization beyond compressed sensing for MRI Reconstruction. Magnetic Resonance in Medicine, 2011, 66, 756-767.	3.0	120
7	Freeâ€breathing multislice native myocardial T₁ mapping using the sliceâ€interleaved T₁ (STONE) sequence. Magnetic Resonance in Medicine, 2015, 74, 115-124.	3.0	83
8	Sparse Phase Retrieval via Truncated Amplitude Flow. IEEE Transactions on Signal Processing, 2018, 66, 479-491.	5.3	82
9	Accelerated Late Gadolinium Enhancement Cardiac MR Imaging with Isotropic Spatial Resolution Using Compressed Sensing: Initial Experience. Radiology, 2012, 264, 691-699.	7.3	75
10	A Frame Construction and a Universal Distortion Bound for Sparse Representations. IEEE Transactions on Signal Processing, 2008, 56, 2443-2450.	5.3	72
11	Lowering the thermal noise barrier in functional brain mapping with magnetic resonance imaging. Nature Communications, 2021, 12, 5181.	12.8	68
12	Assessment of the 2017 AHA/ACC/HRS Guideline Recommendations for Implantable Cardioverter-Defibrillator Implantation in Cardiac Sarcoidosis. Circulation: Arrhythmia and Electrophysiology, 2019, 12, e007488.	4.8	66
13	Accelerated isotropic subâ€millimeter wholeâ€heart coronary MRI: Compressed sensing versus parallel imaging. Magnetic Resonance in Medicine, 2014, 71, 815-822.	3.0	64
14	Compressed sensing reconstruction for wholeâ€heart imaging with 3D radial trajectories: A graphics processing unit implementation. Magnetic Resonance in Medicine, 2013, 69, 91-102.	3.0	62
15	Improved quantitative myocardial T₂ mapping: Impact of the fitting model. Magnetic Resonance in Medicine, 2015, 74, 93-105.	3.0	57
16	Joint myocardial T₁ and T₂ mapping using a combination of saturation recovery and T₂â€preparation. Magnetic Resonance in Medicine, 2016, 76, 888-896.	3.0	57
17	NOise reduction with DIstribution Corrected (NORDIC) PCA in dMRI with complex-valued parameter-free locally low-rank processing. NeuroImage, 2021, 226, 117539.	4.2	57
18	Dense Recurrent Neural Networks for Accelerated MRI: History-Cognizant Unrolling of Optimization Algorithms. IEEE Journal on Selected Topics in Signal Processing, 2020, 14, 1280-1291.	10.8	51

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19	Right Ventricular Abnormalities on Cardiovascular Magnetic Resonance Imaging in Patients With Sarcoidosis. JACC: Cardiovascular Imaging, 2020, 13, 1395-1405.	5.3	50
20	Long-Term Embolic Outcomes After Detection of Left Ventricular Thrombus by Late Gadolinium Enhancement Cardiovascular Magnetic Resonance Imaging. Circulation: Cardiovascular Imaging, 2019, 12, e009723.	2.6	48
21	Clinical performance of highâ€resolution late gadolinium enhancement imaging with compressed sensing. Journal of Magnetic Resonance Imaging, 2017, 46, 1829-1838.	3.4	47
22	Compressed Sensing With Wavelet Domain Dependencies for Coronary MRI: A Retrospective Study. IEEE Transactions on Medical Imaging, 2011, 30, 1090-1099.	8.9	43
23	Self-Supervised Physics-Based Deep Learning MRI Reconstruction Without Fully-Sampled Data. , 2020, , .		39
24	Accelerated aortic flow assessment with compressed sensing with and without use of the sparsity of the complex difference image. Magnetic Resonance in Medicine, 2013, 70, 851-858.	3.0	38
25	Tensor Completion From Regular Sub-Nyquist Samples. IEEE Transactions on Signal Processing, 2020, 68, 1-16.	5.3	37
26	Freeâ€breathing postâ€contrast threeâ€dimensional T₁ mapping: Volumetric assessment of myocardial T₁ values. Magnetic Resonance in Medicine, 2015, 73, 214-222.	3.0	35
27	Simultaneous multislice imaging for native myocardial T₁ mapping: Improved spatial coverage in a single breath-hold. Magnetic Resonance in Medicine, 2017, 78, 462-471.	3.0	32
28	On the selection of sampling points for myocardial T₁ mapping. Magnetic Resonance in Medicine, 2015, 73, 1741-1753.	3.0	31
29	Unsupervised Deep Learning Methods for Biological Image Reconstruction and Enhancement: An overview from a signal processing perspective. IEEE Signal Processing Magazine, 2022, 39, 28-44.	5.6	30
30	Accelerated contrastâ€enhanced wholeâ€heart coronary MRI using lowâ€dimensionalâ€structure selfâ€learning and thresholding. Magnetic Resonance in Medicine, 2012, 67, 1434-1443.	3.0	29
31	Time efficient whole-brain coverage with MR Fingerprinting using slice-interleaved echo-planar-imaging. Scientific Reports, 2018, 8, 6667.	3.3	29
32	Safety and prognostic value of regadenoson stress cardiovascular magnetic resonance imaging in heart transplant recipients. Journal of Cardiovascular Magnetic Resonance, 2019, 21, 9.	3.3	28
33	Freeâ€breathing combined threeâ€dimensional phase sensitive late gadolinium enhancement and T₁ mapping for myocardial tissue characterization. Magnetic Resonance in Medicine, 2015, 74, 1032-1041.	3.0	27
34	Low-Rank Tensor Models for Improved Multidimensional MRI: Application to Dynamic Cardiac T_1 Mapping. IEEE Transactions on Computational Imaging, 2020, 6, 194-207.	4.4	27
35	Accelerated coronary MRI with sRAKI: A database-free self-consistent neural network k-space reconstruction for arbitrary undersampling. PLoS ONE, 2020, 15, e0229418.	2.5	25
36	Accelerated noncontrastâ€enhanced pulmonary vein MRA with distributed compressed sensing. Journal of Magnetic Resonance Imaging, 2011, 33, 1248-1255.	3.4	24

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37	Myocardial Fibrosis and Prognosis in Heart Transplant Recipients. Circulation: Cardiovascular Imaging, 2019, 12, e009060.	2.6	24
38	Temporally resolved parametric assessment of Zâ€magnetization recovery (TOPAZ): Dynamic myocardial T₁ mapping using a cine steadyâ€state lookâ€locker approach. Magnetic Resonance in Medicine, 2018, 79, 2087-2100.	3.0	24
39	Compressedâ€sensing motion compensation (CosMo): A joint prospectiveâ€“retrospective respiratory navigator for coronary MRI. Magnetic Resonance in Medicine, 2011, 66, 1674-1681.	3.0	22
40	Diffusion Imaging in the Post HCP Era. Journal of Magnetic Resonance Imaging, 2021, 54, 36-57.	3.4	22
41	Impact of motion correction on reproducibility and spatial variability of quantitative myocardial T2 mapping. Journal of Cardiovascular Magnetic Resonance, 2015, 17, 46.	3.3	21
42	Accelerated cardiac MR stress perfusion with radial sampling after physical exercise with an MRâ€compatible supine bicycle ergometer. Magnetic Resonance in Medicine, 2015, 74, 384-395.	3.0	20
43	A Coding Theory Approach to Noisy Compressive Sensing Using Low Density Frames. IEEE Transactions on Signal Processing, 2011, 59, 5369-5379.	5.3	18
44	Cardiac Magnetic Resonance Feature Tracking Global Longitudinal Strain and Prognosis After Heart Transplantation. JACC: Cardiovascular Imaging, 2020, 13, 1934-1942.	5.3	18
45	Localized spatioâ€temporal constraints for accelerated CMR perfusion. Magnetic Resonance in Medicine, 2014, 72, 629-639.	3.0	16
46	Selfâ€navigation for 3D multishot EPI with dataâ€reference. Magnetic Resonance in Medicine, 2020, 84, 1747-1762.	3.0	16
47	Accelerated free breathing ECG triggered contrast enhanced pulmonary vein magnetic resonance angiography using compressed sensing. Journal of Cardiovascular Magnetic Resonance, 2014, 16, 91.	3.3	15
48	Accelerated threeâ€dimensional cine phase contrast imaging using randomly undersampled echo planar imaging with compressed sensing reconstruction. NMR in Biomedicine, 2015, 28, 30-39.	2.8	14
49	3D late gadolinium enhancement in a single prolonged breathâ€hold using supplemental oxygenation and hyperventilation. Magnetic Resonance in Medicine, 2014, 72, 850-857.	3.0	14
50	Freeâ€breathing phase contrast MRI with near 100% respiratory navigator efficiency using kâ€spaceâ€dependent respiratory gating. Magnetic Resonance in Medicine, 2014, 71, 2172-2179.	3.0	13
51	Impact of Cardiovascular Magnetic Resonance Imaging on Identifying the Etiology of Cardiomyopathy in Patients Undergoing Cardiac Transplantation. Scientific Reports, 2018, 8, 16212.	3.3	13
52	Accelerated Coronary Mri Using 3D Spirit-Raki With Sparsity Regularization. , 2019, 2019, 1692-1695.		13
53	A field-monitoring-based approach for correcting eddy-current-induced artifacts of up to the 2nd spatial order in human-connectome-project-style multiband diffusion MRI experiment at 7T: A pilot study. NeuroImage, 2020, 216, 116861.	4.2	13
54	Black-blood native T₁ mapping: Blood signal suppression for reduced partial voluming in the myocardium. Magnetic Resonance in Medicine, 2017, 78, 484-493.	3.0	12

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55	Electromagnetic Brain Source Imaging by Means of a Robust Minimum Variance Beamformer. IEEE Transactions on Biomedical Engineering, 2018, 65, 2365-2374.	4.2	12
56	Multiâ€mask selfâ€supervised learning for physicsâ€guided neural networks in highly accelerated magnetic resonance imaging. NMR in Biomedicine, 2022, 35, .	2.8	12
57	Motion-robust cardiac B1+ mapping at 3T using interleaved bloch-siegert shifts. Magnetic Resonance in Medicine, 2017, 78, 670-677.	3.0	11
58	Multi-scale locally low-rank noise reduction for high-resolution dynamic quantitative cardiac MRI. , 2017, 2017, 1473-1476.		11
59	Locally Low-Rank tensor regularization for high-resolution quantitative dynamic MRI. , 2017, 2017, .		11
60	Freeâ€breathing simultaneous T₁, T₂, and T<sub>2</sup>â^—</sup> quantification in the myocardium. Magnetic Resonance in Medicine, 2021, 86, 1226-1240.	3.0	11
61	Compressed sensing reconstruction for undersampled breathâ€hold radial cine imaging with auxiliary freeâ€breathing data. Journal of Magnetic Resonance Imaging, 2014, 39, 179-188.	3.4	10
62	Sparse Signal Recovery from a Mixture of Linear and Magnitude-Only Measurements. IEEE Signal Processing Letters, 2015, 22, 1220-1223.	3.6	10
63	Improved simultaneous multislice cardiac MRI using readout concatenated kâ€space SPIRiT (ROCKâ€SPIRiT). Magnetic Resonance in Medicine, 2021, 85, 3036-3048.	3.0	10
64	Self-Supervised Physics-Guided Deep Learning Reconstruction for High-Resolution 3D LGE CMR. , 2021, , .		10
65	20-fold Accelerated 7T fMRI Using Referenceless Self-Supervised Deep Learning Reconstruction. , 2021, 2021, 3765-3769.		10
66	Ground-Truth Free Multi-Mask Self-Supervised Physics-Guided Deep Learning in Highly Accelerated MRI. , 2021, , .		8
67	sRAKI-RNN: accelerated MRI with scan-specific recurrent neural networks using densely connected blocks. , 2019, , .		8
68	Whole Heart Coronary Imaging with Flexible Acquisition Window and Trigger Delay. PLoS ONE, 2015, 10, e0112020.	2.5	7
69	Accelerated Simultaneous Multi-Slice MRI using Subject-Specific Convolutional Neural Networks. , 2018, 2018, 1636-1640.		6
70	Scan-Specific Residual Convolutional Neural Networks for Fast MRI Using Residual RAKI. , 2019, , .		6
71	Improved Regularized Reconstruction for Simultaneous Multi-Slice Cardiac MRI T₁ Mapping. , 2019, 2019, .		6
72	Optimized fast GPU implementation of robust artificial-neural-networks for k-space interpolation (RAKI) reconstruction. PLoS ONE, 2019, 14, e0223315.	2.5	6

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73	Improved Simultaneous Multi-Slice Functional MRI Using Self-supervised Deep Learning. , 2021, , .		6
74	Residual RAKI: A hybrid linear and non-linear approach for scan-specific k-space deep learning. NeuroImage, 2022, 256, 119248.	4.2	6
75	Low density frames for compressive sensing. , 2010, , .		5
76	Performance of Sparse Representation Algorithms Using Randomly Generated Frames. IEEE Signal Processing Letters, 2007, 14, 777-780.	3.6	4
77	High-Fidelity Accelerated MRI Reconstruction by Scan-Specific Fine-Tuning of Physics-Based Neural Networks. , 2020, 2020, 1481-1484.		4
78	Improved Simultaneous Multi-Slice Imaging for Perfusion Cardiac MRI Using Outer Volume Suppression and Regularized Reconstruction. , 2020, , .		4
79	An Augmented Lagrangian Based Compressed Sensing Reconstruction for Non-Cartesian Magnetic Resonance Imaging without Gridding and Regridding at Every Iteration. PLoS ONE, 2014, 9, e107107.	2.5	4
80	Distributed Memory-Efficient Physics-Guided Deep Learning Reconstruction for Large-Scale 3d Non-Cartesian MRI. , 2022, , .		4
81	Noisy compressive sampling limits in linear and sublinear regimes. , 2008, , .		3
82	Fast GPU Implementation of a Scan-Specific Deep Learning Reconstruction for Accelerated Magnetic Resonance Imaging. , 2018, 2018, 399-403.		3
83	Comparison of Neural Network Architectures for Physics-Driven Deep Learning MRI Reconstruction. , 2019, , .		3
84	Selfâ€calibrated interpolation of nonâ€Cartesian data with GRAPPA in parallel imaging. Magnetic Resonance in Medicine, 2020, 83, 1837-1850.	3.0	3
85	Towards measuring the effect of flow in blood T ₁ assessed in a flow phantom and in vivo. Physics in Medicine and Biology, 2020, 65, 095001.	3.0	3
86	Instabilities in Conventional Multi-Coil MRI Reconstruction with Small Adversarial Perturbations. , 2021, , .		3
87	Utility of respiratoryâ€navigatorâ€rejected kâ€space lines for improved signalâ€toâ€noise ratio in threeâ€dimensional cardiac MR. Magnetic Resonance in Medicine, 2013, 70, 1332-1339.	3.0	2
88	Improved Supervised Training of Physics-Guided Deep Learning Image Reconstruction with Multi-Masking. , 2021, , .		2
89	Compressed Sensing MRI with â„“₁-Wavelet Reconstruction Revisited Using Modern Data Science Tools. , 2021, 2021, 3596-3600.		2
90	Performance Study of Various Sparse Representation Methods Using Redundant Frames. , 2007, , .		1

#	Article	IF	Citations
91	Subject-Specific Convolutional Neural Networks for Accelerated Magnetic Resonance Imaging. , 2018, 2018, .		1
92	Efficient Training of 3D Unrolled Neural Networks for MRI Reconstruction Using Small Databases. , 2021, , .		1
93	Artificial Intelligence for Image Enhancement and Reconstruction in Magnetic Resonance Imaging. Contemporary Medical Imaging, 2022, , 125-138.	0.4	1
94	Distortion-based achievability conditions for joint estimation of sparse signals and measurement parameters from undersampled acquisitions. , 2013, , .		0
95	Magnetic Resonance Imaging of Coronary Arteries. , 2015, , 245-260.		0
96	Robust Online Spike Recovery for High-Density Electrode Recordings using Convolutional Compressed Sensing. , 2019, , .		0
97	Functional LGE Imaging: Cardiac Phase-Resolved Assessment of Focal Fibrosis. , 2019, 2019, 3999-4003.		0
98	Scan-Specific Accelerated Mri Reconstruction Using Recurrent Neural Networks In A Regularized Self-Consistent Framework. , 2020, , .		0
99	Magnetic Resonance Imaging of Coronary Arteries. , 2019, , 291-299.e5.		0
100	Automated Acquisition Planning for Magnetic Resonance Spectroscopy in Brain Cancer. Lecture Notes in Computer Science, 2020, 12267, 730-739.	1.3	0