Koushik Maharatna

List of Publications by Year in Descending Order

94 papers	1,673 citations	23 h-index	38 g-index
97 ext. papers	2,063 ext. citations	3.9 avg, IF	4.64 L-index

#	Paper	IF	Citations
94	Cognitive Outcome Prediction in Infants With Neonatal Hypoxic-Ischemic Encephalopathy Based on Functional Connectivity and Complexity of the Electroencephalography Signal.. *Frontiers in Human Neuroscience*, **2021**, 15, 795006	3.3	1
93	Prediction and classification of ventricular arrhythmia based on phase-space reconstruction and fuzzy c-means clustering.. *Computers in Biology and Medicine*, **2021**, 142, 105180	7	5
92	Prediction of Cerebral Palsy in Newborns With Hypoxic-Ischemic Encephalopathy Using Multivariate EEG Analysis and Machine Learning. *IEEE Access*, **2021**, 9, 137833-137846	3.5	1
91	Classification of Autism Spectrum Disorder From EEG-Based Functional Brain Connectivity Analysis. *Neural Computation*, **2021**, 33, 1914-1941	2.9	3
90	Linear and nonlinear analysis of intrinsic mode function after facial stimuli presentation in children with autism spectrum disorder. *Computers in Biology and Medicine*, **2021**, 133, 104376	7	1
89	An effective PSR-based arrhythmia classifier using self-similarity analysis. *Biomedical Signal Processing and Control*, **2021**, 69, 102851	4.9	2
88	A new algorithm to reduce T-wave over-sensing based on phase space reconstruction in S-ICD system. *Computers in Biology and Medicine*, **2021**, 137, 104804	7	
87	An Automatic R and T Peak Detection Method Based on the Combination of Hierarchical Clustering and Discrete Wavelet Transform. *IEEE Journal of Biomedical and Health Informatics*, **2020**, 24, 2825-2832	7.2	17
86	Hardware architecture for real-time EEG-based functional brain connectivity parameter extraction. *Journal of Neural Engineering*, **2020**,	5	1
85	Phase Space Reconstruction Based CVD Classifier Using Localized Features. *Scientific Reports*, **2019**, 9, 14593	4.9	4
84	Rehab-Net: Deep Learning Framework for Arm Movement Classification Using Wearable Sensors for Stroke Rehabilitation. *IEEE Transactions on Biomedical Engineering*, **2019**, 66, 3026-3037	5	51
83	A phase lag index hardware calculation for real-time electroencephalography studies. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 644-647	0.9	
82	An Automatic R-peak Detection Method Based on Hierarchical Clustering **2019**,		1
81	Low-complexity hardware design methodology for reliable and automated removal of ocular and muscular artifact from EEG. *Computer Methods and Programs in Biomedicine*, **2018**, 158, 123-133	6.9	15
80	Multimodal Functional and Structural Brain Connectivity Analysis in Autism: A Preliminary Integrated Approach With EEG, fMRI, and DTI. *IEEE Transactions on Cognitive and Developmental Systems*, **2018**, 10, 213-226	3	19
79	CORDIC Framework for Quaternion-based Joint Angle Computation to Classify Arm Movements **2018**,		2
78	Developing a Framework for Studying Brain Networks in Neonatal Hypoxic-Ischemic Encephalopathy. *Communications in Computer and Information Science*, **2018**, 203-216	0.3	

77	Fast approximate Bayesian computation for estimating parameters in differential equations. *Statistics and Computing*, **2017**, 27, 19-38	1.8	3
76	Coordinate Rotation-Based Low Complexity K -Means Clustering Architecture. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2017**, 25, 1568-1572	2.6	6
75	Low-Complexity Framework for Movement Classification Using Body-Worn Sensors. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2017**, 25, 1537-1548	2.6	6
74	Comparison of decision tree based classification strategies to detect external chemical stimuli from raw and filtered plant electrical response. *Sensors and Actuators B: Chemical*, **2017**, 249, 278-295	8.5	10
73	GOLIAH (Gaming Open Library for Intervention in Autism at Home): a 6-month single blind matched controlled exploratory study. *Child and Adolescent Psychiatry and Mental Health*, **2017**, 11, 17	6.8	12
72	Architecture for complex network measures of brain connectivity **2017**,		5
71	CORDIC Circuits **2017**, 149-185		1
70	CNN based approach for activity recognition using a wrist-worn accelerometer. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2017**, 2017, 2438-2441	0.9	54
69	Body Area Sensing Networks for Remote Health Monitoring **2016**, 85-136		2
68	Detecting Elementary Arm Movements by Tracking Upper Limb Joint Angles With MARG Sensors. *IEEE Journal of Biomedical and Health Informatics*, **2016**, 20, 1088-99	7.2	26
67	Robust and accurate personalised reconstruction of standard 12-lead system from Frank vectorcardiographic system. *Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization*, **2016**, 4, 183-192	0.9	3
66	GOLIAH: A Gaming Platform for Home-Based Intervention in Autism - Principles and Design. *Frontiers in Psychiatry*, **2016**, 7, 70	5	24
65	Hybrid wavelet and EMD/ICA approach for artifact suppression in pervasive EEG. *Journal of Neuroscience Methods*, **2016**, 267, 89-107	3	31
64	Classifying human emotional states using wireless EEG based ERP and functional connectivity measures **2016**,		6
63	Analysing wireless EEG based functional connectivity measures with respect to change in environmental factors **2016**,		2
62	Brain connectivity analysis from EEG signals using stable phase-synchronized states during face perception tasks. *Physica A: Statistical Mechanics and Its Applications*, **2015**, 434, 273-295	3.3	23
61	A CORDIC-Based Low-Power Statistical Feature Computation Engine for WSN Applications. *Circuits, Systems, and Signal Processing*, **2015**, 34, 4011-4028	2.2	6
60	Real-time arm movement recognition using FPGA **2015**,		5

59	Dynamical System Approach for Edge Detection Using Coupled FitzHugh-Nagumo Neurons. *IEEE Transactions on Image Processing*, **2015**, 24, 5206-19	8.7	5
58	Drift removal in plant electrical signals via IIR filtering using wavelet energy. *Computers and Electronics in Agriculture*, **2015**, 118, 15-23	6.5	5
57	Recognizing upper limb movements with wrist worn inertial sensors using k-means clustering classification. *Human Movement Science*, **2015**, 40, 59-76	2.4	60
56	Prediction of Synchrostate Transitions in EEG Signals Using Markov Chain Models. *IEEE Signal Processing Letters*, **2015**, 22, 149-152	3.2	6
55	On the existence of synchrostates in multichannel EEG signals during face-perception tasks. *Biomedical Physics and Engineering Express*, **2015**, 1, 015002	1.5	9
54	Exploring strategies for classification of external stimuli using statistical features of the plant electrical response. *Journal of the Royal Society Interface*, **2015**, 12, 20141225	4.1	31
53	A statistical index for early diagnosis of ventricular arrhythmia from the trend analysis of ECG phase-portraits. *Physiological Measurement*, **2015**, 36, 107-31	2.9	11
52	Prompt and accurate diagnosis of ventricular arrhythmias with a novel index based on phase space reconstruction of ECG. *International Journal of Cardiology*, **2015**, 182, 38-43	3.2	14
51	Development of an automated updated Selvester QRS scoring system using SWT-based QRS fractionation detection and classification. *IEEE Journal of Biomedical and Health Informatics*, **2014**, 18, 193-204	7.2	23
50	Classification of autism spectrum disorder using supervised learning of brain connectivity measures extracted from synchrostates. *Journal of Neural Engineering*, **2014**, 11, 046019	5	56
49	A novel approach for the diagnosis of ventricular tachycardia based on phase space reconstruction of ECG. *International Journal of Cardiology*, **2014**, 172, e31-3	3.2	7
48	How children with autism spectrum disorder behave and explore the 4-dimensional (spatial 3D + time) environment during a joint attention induction task with a robot. *Research in Autism Spectrum Disorders*, **2014**, 8, 814-826	3	92
47	An Investigation into the Accuracy of Calculating upper Body Joint Angles Using MARG Sensors. *Procedia Engineering*, **2014**, 87, 1330-1333		
46	On the data analysis for classification of elementary upper limb movements. *Biomedical Engineering Letters*, **2014**, 4, 403-413	3.6	7
45	Artifact reduction in multichannel pervasive EEG using hybrid WPT-ICA and WPT-EMD signal decomposition techniques **2014**,		9
44	Recognition of elementary arm movements using orientation of a tri-axial accelerometer located near the wrist. *Physiological Measurement*, **2014**, 35, 1751-68	2.9	16
43	Machine Learning Techniques for Remote Healthcare **2014**, 129-172		
42	Recognition of Elementary Upper Limb Movements in an Activity of Daily Living Using Data from Wrist Mounted Accelerometers **2014**,		2

41	On the sensor choice and data analysis for classification of elementary upper limb movements **2014** ,		3
40	Control strategy for anaesthetic drug dosage with interaction among human physiological organs using optimal fractional order PID controller **2014**,		3
39	Forward and inverse modelling approaches for prediction of light stimulus from electrophysiological response in plants. *Measurement: Journal of the International Measurement Confederation*, **2014**, 53, 101-116	4.6	26
38	Design of a Low-Power On-Body ECG Classifier for Remote Cardiovascular Monitoring Systems. *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, **2013**, 3, 75-85	5.2	21
37	Fractional dynamical model for the generation of ECG like signals from filtered coupled Van-der Pol oscillators. *Computer Methods and Programs in Biomedicine*, **2013**, 112, 490-507	6.9	29
36	A low-complexity ECG feature extraction algorithm for mobile healthcare applications. *IEEE Journal of Biomedical and Health Informatics*, **2013**, 17, 459-69	7.2	121
35	On the Detection of Myocadial Scar Based on ECG/VCG Analysis. *IEEE Transactions on Biomedical Engineering*, **2013**, 60, 3399-409	5	27
34	An automated algorithm for online detection of fragmented QRS and identification of its various morphologies. *Journal of the Royal Society Interface*, **2013**, 10, 20130761	4.1	25
33	Existence of millisecond-order stable states in time-varying phase synchronization measure in EEG signals. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 2539-42	0.9	10
32	Detection of myocardial scar from the VCG using a supervised learning approach. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 7326-9	0.9	2
31	Using brain connectivity measure of EEG synchrostates for discriminating typical and Autism Spectrum Disorder **2013**,		8
30	On the application of quantitative EEG for characterizing autistic brain: a systematic review. *Frontiers in Human Neuroscience*, **2013**, 7, 442	3.3	53
29	ECG compression for remote healthcare systems using selective thresholding based on energy compaction **2012**,		2
28	Towards the development of next-generation remote healthcare system: Some practical considerations **2012**,		14
27	Energy Harvesting for Bio-sensing by Using Carbon Nanotubes **2011**, 195-216		
26	Algorithm and Architecture for N-D Vector Cross-Product Computation. *IEEE Transactions on Signal Processing*, **2011**, 59, 812-826	4.8	9
25	Coordinate Rotation Based Low Complexity N-D FastICA Algorithm and Architecture. *IEEE Transactions on Signal Processing*, **2011**, 59, 3997-4011	4.8	24
24	On the VLSI Implementation of Adaptive-Frequency Hopf Oscillator. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2011**, 58, 1076-1088	3.9	6

23	Simplified logic design methodology for fuzzy membership function based robust detection of maternal modulus maxima location: A low complexity Fetal ECG extraction architecture for mobile health monitoring systems **2011**,		1
22	Modeling SWCNT Bandgap and Effective Mass Variation Using a Monte Carlo Approach. *IEEE Nanotechnology Magazine*, **2010**, 9, 184-193	2.6	42
21	Effects of CNT diameter variability on a CNFET-based SRAM **2010**,		3
20	Robust channel identification scheme: solving permutation indeterminacy of ICA for artifacts removal from ECG. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 1142-5	0.9	7
19	Design metrics for RTL level estimation of delay variability due to intradie (random) variations **2010** ,		2
18	Co-ordinate rotation based low complexity 2D FastICA algorithm and architecture **2010**,		5
17	A low-power simplified-MEWS scoring device for patient monitoring **2010**,		1
16	Hardware efficient fixed-point VLSI architecture for 2D Kurtotic FastICA **2009**,		3
15	Memory Reduction Methodology for Distributed-Arithmetic-Based DWT/IDWT Exploiting Data Symmetry. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2009**, 56, 285-289	3.5	20
14	Physical realizable circuit structure for adaptive frequency Hopf oscillator **2009**,		2
13	Hardware reduction methodology for 2-dimensional kurtotic fastica based on algorithmic analysis and architectural symmetry **2009**,		8
12	50 Years of CORDIC: Algorithms, Architectures, and Applications. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2009**, 56, 1893-1907	3.9	291
11	A new analytical model for predicting SWCNT band-gap from geometrical properties **2008**,		2
10	A novel analogue circuit for controlling prosthetic hands **2008**,		3
9	Low-Power VLSI Implementation of the Inner Receiver for OFDM-Based WLAN Systems. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2008**, 55, 672-686	3.9	21
8	Reduced Z-datapath Cordic Rotator **2008**,		4
7	Hardware development for pervasive healthcare systems: Current status and future directions **2008**,		1
6	Efficient Inner Receiver Design for OFDM-Based WLAN Systems: Algorithm and Architecture. *IEEE Transactions on Wireless Communications*, **2007**, 6, 1374-1385	9.6	18

5	Analog MIMO detection on the basis of Belief Propagation **2006**,		7
4	A 64-point Fourier transform chip for high-speed wireless LAN application using OFDM. *IEEE Journal of Solid-State Circuits*, **2004**, 39, 484-493	5.5	88
3	A VLSI array architecture for realization of DFT, DHT, DCT and DST. *Signal Processing*, **2001**, 81, 1813-1822	4.4	32
2	On the single-chip implementation of a Hiperlan/2 and IEEE 802.11a capable modem. *IEEE Personal Communications*, **2001**, 8, 48-57		26
1	Low-Complex and Low-Power n-dimensional Gram-Schmidt Orthogonalization Architecture Design Methodology. *Circuits, Systems, and Signal Processing*,1	2.2	