Amit Acharyya

List of Publications by Citations

108 papers	1,048 citations	17 h-index	28 g-index
137 ext. papers	1,386 ext. citations	2.4 avg, IF	4.76 L-index

#	Paper	IF	Citations
108	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
107	CorNET: Deep Learning Framework for PPG-Based Heart Rate Estimation and Biometric Identification in Ambulant Environment. *IEEE Transactions on Biomedical Circuits and Systems*, **2019**, 13, 282-291	5.1	98
106	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
105	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
104	Principal Component Analysis Applied to Surface Electromyography: A Comprehensive Review. *IEEE Access*, **2016**, 4, 4025-4037	3.5	43
103	PP-Net: A Deep Learning Framework for PPG-Based Blood Pressure and Heart Rate Estimation. *IEEE Sensors Journal*, **2020**, 20, 10000-10011	4	35
102	An ICA-EBM-Based sEMG Classifier for Recognizing Lower Limb Movements in Individuals With and Without Knee Pathology. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2018**, 26, 675-686	4.8	29
101	Online and automated reliable system design to remove blink and muscle artefact in EEG. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 6784-7	0.9	29
100	Adaptive rule engine based IoT enabled remote health care data acquisition and smart transmission system **2014**,		29
99	On the aberration-retardation effects in pulsars. *Monthly Notices of the Royal Astronomical Society*, **2009**, 393, 1617-1624	4.3	26
98	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
97	Coordinate Rotation Based Low Complexity N-D FastICA Algorithm and Architecture. *IEEE Transactions on Signal Processing*, **2011**, 59, 3997-4011	4.8	24
96	BiometricNet: Deep Learning based Biometric Identification using Wrist-Worn PPG **2018**,		23
95	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
94	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
93	MyoNet: A Transfer-Learning-Based LRCN for Lower Limb Movement Recognition and Knee Joint Angle Prediction for Remote Monitoring of Rehabilitation Progress From sEMG. *IEEE Journal of Translational Engineering in Health and Medicine*, **2020**, 8, 2100310	3	19
92	Low Power Personalized ECG Based System Design Methodology for Remote Cardiac Health Monitoring. *IEEE Access*, **2016**, 4, 8407-8417	3.5	17

91	Frank vectorcardiographic system from standard 12 lead ECG: An effort to enhance cardiovascular diagnosis. *Journal of Electrocardiology*, **2016**, 49, 231-42	1.4	16
90	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
89	A Cost-Effective Fault Tolerance Technique for Functional TSV in 3-D ICs. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2017**, 25, 2071-2080	2.6	14
88	Classification of finger extension and flexion of EMG and Cyberglove data with modified ICA weight matrix. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 3829-32	0.9	14
87	Tunable intrinsic magnetic phase transition in pristine single-layer graphene nanoribbons. *Nanotechnology*, **2018**, 29, 455701	3.4	13
86	Self-healing phenomena of graphene: potential and applications. *Open Physics*, **2016**, 14, 364-370	1.3	13
85	PUF-Based Secure Chaotic Random Number Generator Design Methodology. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2020**, 28, 1740-1744	2.6	12
84	Graphene heals thy cracks. *Computational Materials Science*, **2015**, 109, 84-89	3.2	11
83	Temperature and Size Effect on the Electrical Properties of Monolayer Graphene based Interconnects for Next Generation MQCA based Nanoelectronics. *Scientific Reports*, **2020**, 10, 6240	4.9	11
82	Low-Complexity Methodology for Complex Square-Root Computation. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2017**, 25, 3255-3259	2.6	11
81	Accurate and reliable 3-lead to 12-lead ECG reconstruction methodology for remote health monitoring applications **2013**,		10
80	Modified distributed arithmetic based low complexity CNN architecture design methodology **2017**,		9
79	Algorithm and Architecture for N-D Vector Cross-Product Computation. *IEEE Transactions on Signal Processing*, **2011**, 59, 812-826	4.8	9
78	Nanomagnetic logic design approach for area and speed efficient adder using ferromagnetically coupled fixed input majority gate. *Nanotechnology*, **2019**, 30, 37LT02	3.4	8
77	K-nearest neighbor based methodology for accurate diagnosis of diabetes mellitus **2016**,		8
76	A Reconfigurable High Speed Architecture Design for Discrete Hilbert Transform. *IEEE Signal Processing Letters*, **2014**, 21, 1413-1417	3.2	8
75	Synergistic effect of temperature and point defect on the mechanical properties of single layer and bi-layer graphene. *Superlattices and Microstructures*, **2017**, 110, 205-214	2.8	8
74	Hardware reduction methodology for 2-dimensional kurtotic fastica based on algorithmic analysis and architectural symmetry **2009**,		8

73	Shape and Positional Anisotropy Based Area Efficient Magnetic Quantum-Dot Cellular Automata Design Methodology for Full Adder Implementation. *IEEE Nanotechnology Magazine*, **2018**, 17, 1303-1307	2.6	8
72	Low Complexity Generic VLSI Architecture Design Methodology for N^{th} Root and N^{th} Power Computations. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2019**, 66, 4673-4686	3.9	7
71	Simplex FastICA: An Accelerated and Low Complex Architecture Design Methodology for n D FastICA. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2019**, 27, 1124-1137	2.6	7
70	Reduced lead system selection methodology for reliable standard 12-lead reconstruction targeting personalised remote health monitoring applications. *Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization*, **2014**, 2, 107-120	0.9	7
69	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
68	Self healing nature of bilayer graphene. *Superlattices and Microstructures*, **2016**, 96, 26-35	2.8	7
67	Coordinate Rotation-Based Design Methodology for Square Root and Division Computation. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2019**, 66, 1227-1231	3.5	7
66	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
65	Nanomagnetic logic based runtime Reconfigurable area efficient and high speed adder design methodology. *Nanotechnology*, **2020**, 31, 18LT02	3.4	6
64	System Architecture for Low-Power Ubiquitously Connected Remote Health Monitoring Applications With Smart Transmission Mechanism. *IEEE Sensors Journal*, **2015**, 15, 4532-4543	4	5
63	Modified Huffman based compression methodology for Deep Neural Network Implementation on Resource Constrained Mobile Platforms **2018**,		5
62	Context predictor based sparse sensing technique and smart transmission architecture for IoT enabled remote health monitoring applications. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 4151-4	0.9	5
61	Co-ordinate rotation based low complexity 2D FastICA algorithm and architecture **2010**,		5
60	Locomo-Net: A Low -Complex Deep Learning Framework for sEMG-Based Hand Movement Recognition for Prosthetic Control. *IEEE Journal of Translational Engineering in Health and Medicine*, **2020**, 8, 2100812	3	5
59	Low Complexity Single Channel ICA Architecture Design Methodology for Pervasive Healthcare Applications **2016**,		5
58	Dipole coupled magnetic quantum-dot cellular automata-based efficient approximate nanomagnetic subtractor and adder design approach. *Nanotechnology*, **2020**, 31, 025202	3.4	5
57	A Data Driven Empirical Iterative Algorithm for GSR Signal Pre-Processing **2018**,		5
56	Phase Space Reconstruction Based CVD Classifier Using Localized Features. *Scientific Reports*, **2019**, 9, 14593	4.9	4

55	Affordable low complexity heart/brain monitoring methodology for remote health care. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 5082-5	0.9	4
54	Low complexity underdetermined blind source separation system architecture for emerging remote healthcare applications. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 3833-6	0.9	4
53	High-Speed Low-Complexity Guided Image Filtering-Based Disparity Estimation. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2018**, 65, 606-617	3.9	4
52	Shape-memory-alloy-based smart knee spacer for total knee arthroplasty: 3D CAD modelling and a computational study. *Medical Engineering and Physics*, **2018**, 55, 43-51	2.4	3
51	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
50	Low complexity hardware accelerator for nD FastICA based on coordinate rotation **2017**,		3
49	Methodology for automated detection of fragmentation in QRS complex of Standard 12-lead ECG. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 3789-92	0.9	3
48	Hardware efficient fixed-point VLSI architecture for 2D Kurtotic FastICA **2009**,		3
47	Hardware-Software Codesign Based Accelerated and Reconfigurable Methodology for String Matching in Computational Bioinformatics Applications. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2020**, 17, 1198-1210	3	3
46	Configurable Rotation Matrix of Hyperbolic CORDIC for Any Logarithm and Its Inverse computation. *Circuits, Systems, and Signal Processing*, **2020**, 39, 2551-2573	2.2	3
45	Vector Cross Product and Coordinate Rotation Based nD Hybrid FastICA. *Journal of Low Power Electronics*, **2018**, 14, 351-364	1.2	3
44	A Cost-Aware Framework for Lifetime Reliability of TSV-Based 3D-IC Design. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2020**, 67, 2677-2681	3.5	2
43	Coordinate rotation and vector cross product based hardware accelerator for nD FastICA **2017**,		2
42	Multiscale PCA to distinguish regular and irregular surfaces using tri axial head and trunk acceleration signals. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 4102-5	0.9	2
41	Fast underdetermined BSS architecture design methodology for real time applications. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 5408-11	0.9	2
40	Coordinate rotation based low complexity architecture for 3D Single Channel Independent Component Analysis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, 2013, 2013, 7220-5	0.9	2
39	Deep neural network for automated simultaneous intervertebral disc (IVDs) identification and segmentation of multi-modal MR images. *Computer Methods and Programs in Biomedicine*, **2021**, 205, 106074	6.9	2
38	Tunable polarization components and electric field induced crystallization in polyvinylidenefluoride: A piezo polymer. *Polymer Crystallization*, **2019**, 2, e10027	0.9	2

37	Discrete wavelet transform based methodology for radar pulse deinterleaving. *CSI Transactions on ICT*, **2019**, 7, 141-147	0.4	1
36	Runtime Performance and Power Optimization of Parallel Disparity Estimation on Many-Core Platforms. *Transactions on Embedded Computing Systems*, **2018**, 17, 1-19	1.8	1
35	Discrete wavelet transform based unsupervised underdetermined blind source separation methodology for radar pulse deinterleaving using antenna scan pattern. *IET Radar, Sonar and Navigation*, **2019**, 13, 1350-1358	1.4	1
34	A low complexity on-chip ECG data compression methodology targeting remote health-care applications. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 5944-7	0.9	1
33	Energy-Efficient and High-Speed Robust Channel Identification Methodology to Solve Permutation Indeterminacy in ICA for Artifacts Removal from ECG in Remote Healthcare **2013**,		1
32	Accelerated reconfigurable string matching using hardware-software codesign for computational bioinformatics applications **2017**,		1
31	An accurate clustering algorithm for fast protein-profiling using SCICA on MALDI-TOF **2015**,		1
30	A Low Complexity Architecture for Online On-chip Detection and Identification of f-QRS Feature for Remote Personalized Health Care Applications **2014**,		1
29	A Low-Complexity Onchip Real-Time Automated ECG Frame Identification Methodology Targeting Remote Health Care **2014**,		1
28	A new CAVLC algorithm for higher bit compression by introducing the concept of Position Coding of the coefficients in H.264/AVC **2012**,		1
27	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
26	Hardware development for pervasive healthcare systems: Current status and future directions **2008**,		1
25	Extraction of ECG Significant Features for Remote CVD Monitoring. *Series in Bioengineering*, **2020**, 357-386	1	1
24	Power and Area-Efficient Architectural Design Methodology for Nanomagnetic Computation. *Engergy Systems in Electrical Engineering*, **2020**, 241-270	0.3	1
23	A novel and reliable interlayer exchange coupled nanomagnetic universal logic gate design. *Nanotechnology*, **2021**, 32, 095205	3.4	1
22	Signal Processing Architecture Implementation Methodologies for Next-Generation Remote Healthcare Systems **2014**, 93-128		1
21	CardioNet: Deep Learning Framework for Prediction of CVD Risk Factors **2020**,		1
20	A High Speed and Low Complexity Architecture Design Methodology for Square Root Unscented Kalman Filter based SLAM **2020**,		1

19	Low-Complexity and High-Speed Architecture Design Methodology for Complex Square Root. *Circuits, Systems, and Signal Processing*, **2021**, 40, 5759-5772	2.2	1
18	Effects of Orientation and Temperature on the Tensile Strength of Pristine and Defective Bi-Layer Graphene Sheet A Molecular Dynamics Study. *Transactions of the Indian Institute of Metals*, **2021**, 74, 1729-1739	1.2	1
17	A 1.5mA, 2.4GHz ZigBee/BLE QLMVF Receiver Frond End with Split TCAs in 180nm CMOS **2016**,		1
16	Low-Complexity Architecture for Cyber-Physical Systems Model Identification. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2019**, 66, 1416-1420	3.5	1
15	M2DA: A Low-Complex Design Methodology for Convolutional Neural Network Exploiting Data Symmetry and Redundancy. *Circuits, Systems, and Signal Processing*, **2021**, 40, 1542-1567	2.2	1
14	CORAL: Verification-Aware OpenCL Based Read Mapper for Heterogeneous Systems. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2021**, 18, 1426-1438	3	0
13	An Accelerated Computational Approach in Proteomics. *Series in Bioengineering*, **2020**, 389-432	0.7	0
12	Area efficient in-plane nanomagnetic multiplier and convolution architecture design. *Nano Express*, **2021**, 2, 020008	2	0
11	A low-cost scalable solution for digitizing analog X-rays with applications to rural healthcare. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 7496-9	0.9	
10	A Hierarchical Fault-Tolerant and Cost effective Framework for RRAM based Neural Computing Systems. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2022**, 1-1	3.5	
9	Fragmented Huffman-Based Compression Methodology for CNN Targeting Resource-Constrained Edge Devices. *Circuits, Systems, and Signal Processing*,1	2.2	
8	PPG-Based Non-invasive Methodologies for Pervasive Monitoring of Vitals: BP and HR **2022**, 87-99		
7	ECG Lead Reconstruction Methodologies for Remote Health Monitoring of Cardiovascular Diseases (CVD) **2022**, 3-59		
6	A Novel Architecture Design for Complex Network Measures of Brain Connectivity Aiding Diagnosis **2022**, 281-302		
5	Pervasive Computing in Cardiovascular Healthcare **2019**, 177-211		
4	Low Complexity VLSI Architecture Design Methodology for Wigner Ville Distribution. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2020**, 67, 3532-3536	3.5	
3	Fault Tolerance in 3D-ICs. *Internet of Things*, **2019**, 155-178	1.3	
2	Low-Complex and Low-Power n-dimensional Gram Schmidt Orthogonalization Architecture Design Methodology. *Circuits, Systems, and Signal Processing*,1	2.2	

1   Interlayer Exchange Coupled Based Nanomagnetic Multiplier Architecture Design Methodology.   2.6
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