Alex Pappachen James

List of Publications by Citations

140 papers	**1,760** citations	**17** h-index	**38** g-index
196 ext. papers	**2,410** ext. citations	**2.9** avg, IF	**6** L-index

#	Paper	IF	Citations
140	Medical image fusion: A survey of the state of the art. *Information Fusion*, **2014**, 19, 4-19	16.7	481
139	Wireless Charging Techniques for UAVs: A Review, Reconceptualization, and Extension. *IEEE Access*, **2018**, 6, 29865-29884	3.5	107
138	Neuromemristive Circuits for Edge Computing: A Review. *IEEE Transactions on Neural Networks and Learning Systems*, **2020**, 31, 4-23	10.3	90
137	IN-YOLO: Real-Time Detection of Outdoor High Voltage Insulators Using UAV Imaging. *IEEE Transactions on Power Delivery*, **2020**, 35, 1599-1601	4.3	62
136	Learning in Memristive Neural Network Architectures Using Analog Backpropagation Circuits. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2019**, 66, 719-732	3.9	59
135	A Survey of Memristive Threshold Logic Circuits. *IEEE Transactions on Neural Networks and Learning Systems*, **2017**, 28, 1734-1746	10.3	56
134	A survey on LSTM memristive neural network architectures and applications. *European Physical Journal: Special Topics*, **2019**, 228, 2313-2324	2.3	52
133	Detection and Analysis of Emotion from Speech Signals. *Procedia Computer Science*, **2015**, 58, 91-96	1.6	39
132	Hierarchical Temporal Memory Features with Memristor Logic Circuits for Pattern Recognition. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2018**, 37, 1143-1156	2.5	36
131	A memristor-based long short term memory circuit. *Analog Integrated Circuits and Signal Processing*, **2018**, 95, 467-472	1.2	36
130	HTM Spatial Pooler With Memristor Crossbar Circuits for Sparse Biometric Recognition. *IEEE Transactions on Biomedical Circuits and Systems*, **2017**, 11, 640-651	5.1	27
129	Inter-image outliers and their application to image classification. *Pattern Recognition*, **2010**, 43, 4101-4112	7.7	27
128	Analog Backpropagation Learning Circuits for Memristive Crossbar Neural Networks **2018**,		25
127	Hierarchical Temporal Memory Using Memristor Networks: A Survey. *IEEE Transactions on Emerging Topics in Computational Intelligence*, **2018**, 2, 380-395	4.1	22
126	Nearest Neighbor Classifier Based on Nearest Feature Decisions. *Computer Journal*, **2012**, 55, 1072-1087	1.3	20
125	Resistive Threshold Logic. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2014**, 22, 190-195	2.1	19
124	Memristive Threshold Logic Circuit Design of Fast Moving Object Detection. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2015**, 23, 2337-2341	2.6	18

#	Reference	IF	Cites
123	Memristive GAN in Analog. *Scientific Reports*, **2020**, 10, 5838	4.9	17
122	Bit-Plane Extracted Moving-Object Detection Using Memristive Crossbar-CAM Arrays for Edge Computing Image Devices. *IEEE Access*, **2018**, 6, 18954-18966	3.5	17
121	A design of HTM spatial pooler for face recognition using memristor-CMOS hybrid circuits **2016**,		17
120	Engineering the Global University Rankings: Gold Standards, Limitations and Implications. *IEEE Access*, **2018**, 6, 6765-6776	3.5	16
119	Threshold Logic Computing: Memristive-CMOS Circuits for Fast Fourier Transform and Vedic Multiplication. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2015**, 23, 2690-2694	2.6	16
118	High voltage outdoor insulator surface condition evaluation using aerial insulator images. *High Voltage*, **2019**, 4, 178-185	4.1	15
117	Memristive Non-Idealities: Is there any Practical Implications for Designing Neural Network Chips? **2019**,		14
116	On-chip face recognition system design with memristive Hierarchical Temporal Memory. *Journal of Intelligent and Fuzzy Systems*, **2018**, 34, 1393-1402	1.6	14
115	Face Recognition Using Local Binary Decisions. *IEEE Signal Processing Letters*, **2008**, 15, 821-824	3.2	14
114	Feature extraction without learning in an analog spatial pooler memristive-CMOS circuit design of hierarchical temporal memory. *Analog Integrated Circuits and Signal Processing*, **2018**, 95, 457-465	1.2	13
113	Heart rate monitoring using human speech spectral features. *Human-centric Computing and Information Sciences*, **2015**, 5,	5.4	13
112	Memristive LSTM network hardware architecture for time-series predictive modeling problems **2018**,		12
111	Binary Weighted Memristive Analog Deep Neural Network for Near-Sensor Edge Processing **2018**,		12
110	Memristor pattern recogniser: isolated speech word recognition. *Electronics Letters*, **2015**, 51, 1370-1372	1.1	11
109	Neuron inspired data encoding memristive multi-level memory cell. *Analog Integrated Circuits and Signal Processing*, **2018**, 95, 429-434	1.2	11
108	Overview of Long Short-Term Memory Neural Networks. *Modeling and Optimization in Science and Technologies*, **2020**, 139-153	0.6	11
107	Design of CMOS-memristor Circuits for LSTM architecture **2018**,		11
106	An overview of memristive cryptography. *European Physical Journal: Special Topics*, **2019**, 228, 2301-2312	2.3	10

105	Spatial Stimuli Gradient Sketch Model. *IEEE Signal Processing Letters*, **2015**, 22, 1336-1339	3.2	10
104	Cognitive memory network. *Electronics Letters*, **2010**, 46, 677	1.1	10
103	ANFIS based quadrotor drone altitude control implementation on Raspberry Pi platform. *Analog Integrated Circuits and Signal Processing*, **2018**, 95, 435-445	1.2	9
102	Quality assessment metrics for edge detection and edge-aware filtering: A tutorial review **2017**,		9
101	Facial emotion recognition using min-max similarity classifier **2017**,		9
100	Ranked selection of nearest discriminating features. *Human-centric Computing and Information Sciences*, **2012**, 2, 12	5.4	9
99	Introduction to Memristive HTM Circuits **2018**,		9
98	Memristive Threshold Logic Face Recognition. *Procedia Computer Science*, **2014**, 41, 98-103	1.6	8
97	One-sample face recognition with local similarity decisions. *International Journal of Applied Pattern Recognition*, **2013**, 1, 61	0.2	8
96	Analog Neural Computing With Super-Resolution Memristor Crossbars. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2021**, 1-12	3.9	8
95	Edge detection for pattern recognition: a survey. *International Journal of Applied Pattern Recognition*, **2016**, 3, 1	0.2	7
94	RFID-Cloud smart cart system **2016**,		7
93	Multi-level memristive memory with resistive networks **2017**,		7
92	Unmanned Aerial Vehicle (UAV) charging from powerlines **2017**,		7
91	Discriminative histogram taxonomy features for snake species identification. *Human-centric Computing and Information Sciences*, **2014**, 4,	5.4	6
90	Edge detection using resistive threshold logic networks with CMOS flash memories. *International Journal of Intelligent Computing and Cybernetics*, **2014**, 7, 79-94	2.2	6
89	Who is the Winner? Memristive-CMOS Hybrid Modules: CNN-LSTM Versus HTM. *IEEE Transactions on Biomedical Circuits and Systems*, **2020**, 14, 164-172	5.1	6
88	. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2021**, 68, 1133-1137	3.5	6

87	Sparse distributed localized gradient fused features of objects. *Pattern Recognition*, **2015**, 48, 1538-1546	7.7	5
86	Speech signal analysis for the estimation of heart rates under different emotional states **2016**,		5
85	Automating Analogue AI Chip Design with Genetic Search. *Advanced Intelligent Systems*, **2020**, 2, 2000076		5
84	Voltage controlled memristor threshold logic gates **2016**,		5
83	A Memristor-CMOS Braun Multiplier Array for Arithmetic Pipelining **2019**,		5
82	Probabilistic Neural Network with Memristive Crossbar Circuits **2019**,		4
81	M2CA: Modular Memristive Crossbar Arrays **2018**,		4
80	Discrete-level memristive circuits for HTM-based spatiotemporal data classification system. *IET Cyber-Physical Systems: Theory and Applications*, **2018**, 3, 34-43	2.5	4
79	Generalized Bell-Shaped Membership Function Generation Circuit for Memristive Neural Networks **2019**,		4
78	Ancient indian document analysis using cognitive memory network **2014**,		4
77	Level-shifted neural encoded analog-to-digital converter **2017**,		4
76	Improving feature selection algorithms using normalised feature histograms. *Electronics Letters*, **2011**, 47, 490	1.1	4
75	On Design of Memristive Amplifier Circuits. *Circuits and Systems*, **2014**, 05, 265-273	0.6	4
74	Variation-aware Binarized Memristive Networks **2019**,		4
73	Memristors: Properties, Models, Materials. *Modeling and Optimization in Science and Technologies*, **2020**, 13-40	0.6	4
72	Deep Neuro-Fuzzy Architectures. *Modeling and Optimization in Science and Technologies*, **2020**, 195-213	0.6	4
71	A Theoretical Analysis of the Peaking Phenomenon in Classification. *Journal of Classification*, **2020**, 37, 421-434	1.2	4
70	Approximate Probabilistic Neural Networks with Gated Threshold Logic **2018**,		4

69	Wafer Quality Inspection using Memristive LSTM, ANN, DNN and HTM **2018**,		4
68	Notice of Retraction: Implementation of True Random Number Generator based on Double-Scroll Attractor circuit with GST memristor emulator **2018**,		4
67	Design and implication of a rule based weight sparsity module in HTM spatial pooler **2017**,		3
66	Neuromorphic Adaptive Edge-Preserving Denoising Filter **2017**,		3
65	Unified Model for Contrast Enhancement and Denoising **2017**,		3
64	Memristive Operational Amplifiers. *Procedia Computer Science*, **2014**, 41, 114-119	1.6	3
63	Biologically inspired features used for robust phoneme recognition. *International Journal of Machine Intelligence and Sensory Signal Processing*, **2013**, 1, 46		3
62	Analogue neuro-memristive convolutional dropout nets. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2020**, 476, 20200210	2.4	3
61	Recursive Threshold Logic-A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *IEEE Transactions on Biomedical Circuits and Systems*, **2020**, 14, 1311-1322	5.1	3
60	Getting Started with TensorFlow Deep Learning. *Modeling and Optimization in Science and Technologies*, **2020**, 57-67	0.6	3
59	Speech Recognition Application Using Deep Learning Neural Network. *Modeling and Optimization in Science and Technologies*, **2020**, 69-79	0.6	3
58	The Why, What and How of Artificial General Intelligence Chip Development. *IEEE Transactions on Cognitive and Developmental Systems*, **2021**, 1-1	3	3
57	Neural Network-Based Analog-to-Digital Converters **2018**,		3
56	The Memristor Circuits and Applications **2015**,		2
55	Threshold logic based low-level vision sparse object features. *International Journal of Intelligent Computing and Cybernetics*, **2016**, 9, 314-324	2.2	2
54	AnalogHTM: Memristive Spatial Pooler Learning with Backpropagation **2019**,		2
53	Variable pixel G-neighbor filters **2017**,		2
52	Memristor load current mirror circuit **2015**,		2

51	TMS-Crossbars with Tactile Sensing. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2021**, 1-1	3.5	2
50	Snake classification from images		2
49	An Artificial Cellular Convolution Architecture for Real-Time Image Processing **2012**, 2012, 1-7		2
48	Towards Strong AI with Analog Neural Chips **2020**,		2
47	Vilokana - Lightweight COVID19 Document Analysis **2020**,		2
46	**2021**,		2
45	Bioinspired memory model for HTM face recognition **2016**,		2
44	HTM Theory. *Modeling and Optimization in Science and Technologies*, **2020**, 169-180	0.6	2
43	Programmable Memristive Threshold Logic Gate Array **2018**,		2
42	Notice of Retraction: Variability Analysis of Memristor-based Sigmoid Function **2018**,		2
41	Notice of Retraction: Analysis of Multilayer Perceptron with Rectifier Linear Unit Activation Function **2018**,		2
40	Recognizing isolated words with minimum distance similarity metric padding. *Journal of Intelligent and Fuzzy Systems*, **2017**, 32, 2933-2939	1.6	1
39	AMSNet: Analog Memristive System Architecture for Mean-Pooling with Dropout Convolutional Neural Network **2019**,		1
38	Edge-Aware Spatial Denoising Filtering Based on a Psychological Model of Stimulus Similarity. *IEEE Access*, **2018**, 6, 3433-3447	3.5	1
37	Memristive system design for variable pixel G-neighbor denoising filter. *Journal of Intelligent and Fuzzy Systems*, **2018**, 34, 1653-1667	1.6	1
36	Temporal G-Neighbor Filtering for Analog Domain Noise Reduction in Astronomical Videos. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2019**, 66, 868-872	3.5	1
35	Directional edge detection using parallel cognitive logic cells **2013**,		1
34	Automated image segmentation for detecting cell spreading for metastasizing assessments of cancer development **2017**,		1

33	Adaptive digital scan variable pixels **2015**,		1
32	Threshnomics: An Introduction to Threshold Logic in Algorithms and Circuits. *Journal of Computer Science and Systems Biology*, **2014**, 07,	0	1
31	Irregular pixel imaging **2014**,		1
30	An efficient method to estimate the optimum regularization parameter in RLDA. *Bioinformatics*, **2016**, 32, 3461-3468	7.2	1
29	Chaotic Oscillator Using Coupled Memristive Pairs **2019**,		1
28	Learning Algorithms and Implementation. *Modeling and Optimization in Science and Technologies*, **2020**, 91-102	0.6	1
27	Memristive Deep Convolutional Neural Networks. *Modeling and Optimization in Science and Technologies*, **2020**, 131-137	0.6	1
26	Deep-Learning-Based Approach for Outdoor Electrical Insulator Inspection. *Modeling and Optimization in Science and Technologies*, **2020**, 81-88	0.6	1
25	Memristive Threshold Logic Networks. *Modeling and Optimization in Science and Technologies*, **2020**, 117-130	0.6	1
24	Introduction to Neuro-Memristive Systems. *Modeling and Optimization in Science and Technologies*, **2020**, 3-12	0.6	1
23	Deep Learning Theory Simplified. *Modeling and Optimization in Science and Technologies*, **2020**, 41-55	0.6	1
22	Outdoor Insulator Surface Condition Evaluation using Image Classification **2018**,		1
21	Image Based HTM Word Recognizer for Language Processing **2018**,		1
20	Real-Time Analog Pixel-to-Pixel Dynamic Frame Differencing with Memristive Sensing Circuits **2018**,		1
19	FAPNN: An FPGA based Approximate Probabilistic Neural Network Library **2018**,		1
18	Generalised Analog LSTMs Recurrent Modules for Neural Computing. *Frontiers in Computational Neuroscience*, **2021**, 15, 705050	3.5	1
17	Edge to quantum: hybrid quantum-spiking neural network image classifier. *Neuromorphic Computing and Engineering*, **2021**, 1, 024001		1
16	Mean-Variance Blind Noise Estimation for CT Images. *Advances in Intelligent Systems and Computing*, **2014**, 235-243	0.4	0

List of Publications

15	Chuas Oscillator with OTA based Memcapacitor Emulator. *IEEE Nanotechnology Magazine*, **2022**, 1-1	2.6 0
14	Oxford circuits and systems conference. *Analog Integrated Circuits and Signal Processing*, **2018**, 95, 373-374	
13	Resistive MOSFET brain-inspired threshold logic gates. *International Journal of Machine Intelligence and Sensory Signal Processing*, **2014**, 1, 192	
12	Role of Resolution in Noisy Pattern Matching. *Communications in Computer and Information Science*, **2010**, 120-124	0.3
11	Machine Intelligence Using Hierarchical Memory Networks **2013**, 62-74	
10	Aggregate Metric Networks for Nearest Neighbour Classifiers. *Advances in Intelligent Systems and Computing*, **2014**, 13-22	0.4
9	Memristive LSTM Architectures. *Modeling and Optimization in Science and Technologies*, **2020**, 155-167	0.6
8	Memristive Hierarchical Temporal Memory. *Modeling and Optimization in Science and Technologies*, **2020**, 181-194	0.6
7	Multi-level Memristive Memory for Neural Networks. *Modeling and Optimization in Science and Technologies*, **2020**, 103-116	0.6
6	Neuromorphic vision networks for face recognition **2021**, 361-381	
5	Learning memristive spiking neurons and beyond **2021**, 517-528	
4	Analog circuit integration of backpropagation learning in memristive HTM architecture **2021**, 427-438	
3	Guidelines for benchmarking non-ideal analog memristive crossbars for neural networks **2021**, 287-298	
2	Diffusion sensitivity enhancement filter for raw DWIs. *IET Computer Vision*, **2018**, 12, 950-956	1.4
1	Variability-aware Memristive Crossbars -A Tutorial. *IEEE Transactions on Circuits and Systems II: Express Briefs*, **2022**, 1-1	3.5