AndrÃ© van Schaik

List of Publications by Year
in descending order

162	4,937	172457	144013
papers	citations	29 h-index	57 g-index

172	172	172	4405
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Noise-robust text-dependent speaker identification using cochlear models. Journal of the Acoustical Society of America, 2022, 151, 500-516.	1.1	4
2	Neuromorphic Engineering Needs Closed-Loop Benchmarks. Frontiers in Neuroscience, 2022, 16, 813555.	2.8	2
3	Drift in a popular metal oxide sensor dataset reveals limitations for gas classification benchmarks. Sensors and Actuators B: Chemical, 2022, 361, 131668.	7.8	18
4	Martingales and the fixation time of evolutionary graphs with arbitrary dimensionality. Royal Society Open Science, 2022, 9, 220011.	2.4	2
5	Real-Time Event-Based Unsupervised Feature Consolidation and Tracking for Space Situational Awareness. Frontiers in Neuroscience, 2022, 16, .	2.8	4
6	Neuromorphic Sensors, Cochlea. , 2022, , 2325-2329.		0
7	FPGA Implementation of Particle Filters for Robotic Source Localization. IEEE Access, 2021, 9, 98185-98203.	4.2	5
8	A Biologically Inspired Sound Localisation System Using a Silicon Cochlea Pair. Applied Sciences (Switzerland), 2021, 11, 1519.	2.5	4
9	Live Demonstration: An FPGA-Based Emulation of an Event-Based Vision Sensor Using Commercially Available Camera. , 2021, , .		0
10	Advances in Machine Learning and Deep Neural Networks. Proceedings of the IEEE, 2021, 109, 607-611.	21.3	19
11	Event Camera Simulator Improvements via Characterized Parameters. Frontiers in Neuroscience, 2021, 15, 702765.	2.8	11
12	Martingales and the characteristic functions of absorption time on bipartite graphs. Royal Society Open Science, 2021, 8, 210657.	2.4	1
13	Event-Based Object Detection and Tracking for Space Situational Awareness. IEEE Sensors Journal, 2020, 20, 15117-15132.	4.7	23
14	Waldâ€™s martingale and the conditional distributions of absorption time in the Moran process. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, .	2.1	5
15	Event-Based Computation for Touch Localization Based on Precise Spike Timing. Frontiers in Neuroscience, 2020, 14, 420.	2.8	9
16	Event-Based Feature Extraction Using Adaptive Selection Thresholds. Sensors, 2020, 20, 1600.	3.8	19
17	Event-Based Processing of Single Photon Avalanche Diode Sensors. IEEE Sensors Journal, 2020, 20, 7677-7691.	4.7	10
18	Low Power, CMOS-MoS2 Memtransistor based Neuromorphic Hybrid Architecture for Wake-Up Systems. Scientific Reports, 2019, 9, 15604.	3.3	16

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19	Event-based Sensing for Space Situational Awareness. Journal of the Astronautical Sciences, 2019, 66, 125-141.	1.5	37
20	A Binaural Sound Localization System using Deep Convolutional Neural Networks. , 2019, , .		8
21	A Neuroethics Framework for the Australian Brain Initiative. Neuron, 2019, 101, 365-369.	8.1	11
22	Single-Bit-per-Weight Deep Convolutional Neural Networks without Batch-Normalization Layers for Embedded Systems. , 2019, , .		2
23	Star Tracking Using an Event Camera. , 2019, , .		17
24	Vibrotactile sensitivity of patients with HIVâ€related sensory neuropathy: An exploratory study. Brain and Behavior, 2019, 9, e01184.	2.2	8
25	Efficient FPGA Implementations of Pair and Triplet-Based STDP for Neuromorphic Architectures. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1558-1570.	5.4	38
26	CAR-Lite: A Multi-Rate Cochlear Model on FPGA for Spike-Based Sound Encoding. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1805-1817.	5.4	5
27	Embedded implementation of a random feature detecting network for real-time classification of time-of-flight SPAD array recordings. , 2019, , .		5
28	An Analogue Neuromorphic Co-Processor That Utilizes Device Mismatch for Learning Applications. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 1174-1184.	5.4	13
29	Spatial and Temporal Downsampling in Event-Based Visual Classification. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 5030-5044.	11.3	17
30	Large-Scale Neuromorphic Spiking Array Processors: A Quest to Mimic the Brain. Frontiers in Neuroscience, 2018, 12, 891.	2.8	177
31	Breaking Liebigâ€™s Law: An Advanced Multipurpose Neuromorphic Engine. Frontiers in Neuroscience, 2018, 12, 593.	2.8	12
32	A Machine Hearing System for Binaural Sound Localization based on Instantaneous Correlation. , 2018, , .		5
33	Astrocytic modulation of cortical oscillations. Scientific Reports, 2018, 8, 11565.	3.3	48
34	A FPGA Implementation of the CAR-FAC Cochlear Model. Frontiers in Neuroscience, 2018, 12, 198.	2.8	30
35	An FPGA-Based Massively Parallel Neuromorphic Cortex Simulator. Frontiers in Neuroscience, 2018, 12, 213.	2.8	37
36	CAR-Lite: A Multi-Rate Cochlea Model on FPGA. , 2018, , .		3

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37	A pneumatic Bionic Voice prosthesisâ€"Pre-clinical trials of controlling the voice onset and offset. PLoS ONE, 2018, 13, e0192257.	2.5	6
38	Investigation of Event-Based Surfaces for High-Speed Detection, Unsupervised Feature Extraction, and Object Recognition. Frontiers in Neuroscience, 2018, 12, 1047.	2.8	20
39	Implantable hearing interfaces. , 2018, , .		0
40	Neuromorphic Hardware Architecture Using the Neural Engineering Framework for Pattern Recognition. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 574-584.	4.0	37
41	Prolonged Incubation of Acute Neuronal Tissue for Electrophysiology and Calcium-imaging. Journal of Visualized Experiments, 2017, , .	0.3	9
42	Inference in spiking Bayesian neurons using stochastic computation. , 2017, , .		2
43	Measurement of perception thresholds for electrical noise stimuli. , 2017, 2017, 2166-2169.		3
44	EMNIST: Extending MNIST to handwritten letters. , 2017, , .		667
45	Low-power transcutaneous current stimulator for wearable applications. BioMedical Engineering OnLine, 2017, 16, 118.	2.7	6
46	Bayesian Estimation and Inference Using Stochastic Electronics. Frontiers in Neuroscience, 2016, 10, 104.	2.8	26
47	Skimming Digits: Neuromorphic Classification of Spike-Encoded Images. Frontiers in Neuroscience, 2016, 10, 184.	2.8	43
48	A Review of Control Strategies in Closed-Loop Neuroprosthetic Systems. Frontiers in Neuroscience, 2016, 10, 312.	2.8	44
49	Calcium Imaging of AM Dyes Following Prolonged Incubation in Acute Neuronal Tissue. PLoS ONE, 2016, 11, e0155468.	2.5	38
50	A stochastic approach to STDP. , 2016, , .		6
51	Electronic cochlea: CAR-FAC model on FPGA. , 2016, , .		9
52	An SRAM-based implementation of a convolutional neural network. , 2016, , .		1
53	A Low Power Trainable Neuromorphic Integrated Circuit That Is Tolerant to Device Mismatch. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 211-221.	5.4	24
54	The Bayesian Decoding of Force Stimuli from Slowly Adapting Type I Fibers in Humans. PLoS ONE, 2016, 11, e0153366.	2.5	1

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55	A neuromorphic hardware framework based on population coding. , 2015, , .		13
56	Sound stream segregation: a neuromorphic approach to solve the â€œcocktail party problemâ€• in real-time. Frontiers in Neuroscience, 2015, 9, 309.	2.8	15
57	Fast, Simple and Accurate Handwritten Digit Classification by Training Shallow Neural Network Classifiers with the â€˜Extreme Learning Machineâ€™ Algorithm. PLoS ONE, 2015, 10, e0134254.	2.5	59
58	Turn Down That Noise: Synaptic Encoding of Afferent SNR in a Single Spiking Neuron. IEEE Transactions on Biomedical Circuits and Systems, 2015, 9, 188-196.	4.0	18
59	A neuromorphic implementation of multiple spike-timing synaptic plasticity rules for large-scale neural networks. Frontiers in Neuroscience, 2015, 9, 180.	2.8	25
60	Sleep apnoea episodes recognition by a committee of ELM classifiers from ECG signal. , 2015, 2015, 7675-8.		3
61	A reconfigurable mixed-signal implementation of a neuromorphic ADC. , 2015, , .		3
62	A compact aVLSI conductance-based silicon neuron. , 2015, , .		10
63	A comparison of extreme learning machines and back-propagation trained feed-forward networks processing the mnist database. , 2015, , .		12
64	A point process approach to encode tactile afferents. , 2015, , .		0
65	Decoding force from multiunit recordings from the median nerve. , 2015, , .		2
66	ELM solutions for event-based systems. Neurocomputing, 2015, 149, 435-442.	5.9	5
67	Online and adaptive pseudoinverse solutions for ELM weights. Neurocomputing, 2015, 149, 233-238.	5.9	38
68	Explicit Computation of Input Weights in Extreme Learning Machines. Proceedings in Adaptation, Learning and Optimization, 2015, , 41-49.	1.6	15
69	A mixed-signal implementation of a polychronous spiking neural network with delay adaptation. Frontiers in Neuroscience, 2014, 8, 51.	2.8	25
70	Research topic: neuromorphic engineering systems and applications. A snapshot of neuromorphic systems engineering. Frontiers in Neuroscience, 2014, 8, 424.	2.8	3
71	A compact neural core for digital implementation of the Neural Engineering Framework. , 2014, , .		7
72	Asynchronous Binaural Spatial Audition Sensor With 2<formula formulatype="inline"><tex Notation="TeX">$,imes,$</tex></formula>64<formula formulatype="inline"><tex Notation="TeX">$,imes,$</tex></formula>4 Channel Output. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 453-464.	4.0	135

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73	A generalised conductance-based silicon neuron for large-scale spiking neural networks. , 2014, , .		9
74	A digital to transconductance converter for nauta structure op-amps in 65nm CMOS. , 2014, , .		7
75	Creating the Sydney York Morphological and Acoustic Recordings of Ears Database. IEEE Transactions on Multimedia, 2014, 16, 37-46.	7.2	60
76	FPGA implementation of the CAR Model of the cochlea. , 2014, , .		21
77	Stochastic Electronics: A Neuro-Inspired Design Paradigm for Integrated Circuits. Proceedings of the IEEE, 2014, 102, 843-859.	21.3	59
78	A compact reconfigurable mixed-signal implementation of synaptic plasticity in spiking neurons. , 2014, , .		10
79	Live demonstration: FPGA implementation of the CAR model of the cochlea. , 2014, , .		7
80	An FPGA design framework for large-scale spiking neural networks. , 2014, , .		25
81	Approximate, Computationally Efficient Online Learning in Bayesian Spiking Neurons. Neural Computation, 2014, 26, 472-496.	2.2	4
82	Racing to learn: statistical inference and learning in a single spiking neuron with adaptive kernels. Frontiers in Neuroscience, 2014, 8, 377.	2.8	17
83	Extending the viability of acute brain slices. Scientific Reports, 2014, 4, 5309.	3.3	60
84	A 0.3mm² 10-b 100MS/s pipelined ADC using Nauta structure op-amps in 180nm CMOS. , 2013, , .		8
85	Temporal Order Detection and Coding in Nervous Systems. Neural Computation, 2013, 25, 510-531.	2.2	4
86	Towards true unipolar bio-potential recording: a preliminary result for ECG. Physiological Measurement, 2013, 34, N1-N7.	2.1	21
87	An improved aVLSI axon with programmable delay using spike timing dependent delay plasticity. , 2013, , .		4
88	Unipolar ECG circuits: Towards more precise cardiac event identification. , 2013, , .		4
89	Towards true unipolar ECG recording without the Wilson central terminal (preliminary results). Physiological Measurement, 2013, 34, 991-1012.	2.1	18
90	The adaptation of spike backpropagation delays in cortical neurons. Frontiers in Cellular Neuroscience, 2013, 7, 192.	3.7	17

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91	An FPGA Implementation of a Polychronous Spiking Neural Network with Delay Adaptation. Frontiers in Neuroscience, 2013, 7, 14.	2.8	55
92	Synthesis of neural networks for spatio-temporal spike pattern recognition and processing. Frontiers in Neuroscience, 2013, 7, 153.	2.8	54
93	The ripple pond: enabling spiking networks to see. Frontiers in Neuroscience, 2013, 7, 212.	2.8	7
94	Active electrode design suitable for simultaneous EIT and EEG. Electronics Letters, 2012, 48, 1583-1584.	1.0	9
95	A method for measuring switching frequency using complex asynchronous logic circuits. , 2012, , .		0
96	An asynchronous parallel neuromorphic ADC architecture. , 2012, , .		7
97	Investigating the role of combined acoustic-visual feedback in one-dimensional synchronous brain computer interfaces, a preliminary study. Medical Devices: Evidence and Research, 2012, 5, 81.	0.8	12
98	Emergence of competitive control in a memristor-based neuromorphic circuit. , 2012, , .		6
99	A 1.2V 2-bit phase interpolator for 65nm CMOS. , 2012, , .		9
100	Online learning in Bayesian Spiking Neurons. , 2012, , .		0
101	Pregnancy detection and monitoring in cattle via combined foetus electrocardiogram and phonocardiogram signal processing. BMC Veterinary Research, 2012, 8, 164.	1.9	10
102	FPGA implementation of biologically-inspired auto-associative memory. Electronics Letters, 2012, 48, 148.	1.0	6
103	An aVLSI programmable axonal delay circuit with spike timing dependent delay adaptation. , 2012, , .		9
104	Neuromorphic audioâ€“visual sensor fusion on a sound-localizing robot. Frontiers in Neuroscience, 2012, 6, 21.	2.8	20
105	L1 regularization method in electrical impedance tomography by using the L1-curve (Pareto frontier) Tj ETQq1 1 0.784314 rgBT /Over	4.2	70
106	Convergence analysis of efficient online learning in Bayesian spiking neurons. BMC Neuroscience, 2012, 13, .	1.9	0
107	Time domain reconstruction of spatial sound fields using compressed sensing. , 2011, , .		13
108	Silicon implementation of the generalized integrate-and-fire neuron model. , 2011, , .		3

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109	Spiking neural network-based auto-associative memory using FPGA interconnect delays. , 2011, , .		4
110	An analogue VLSI implementation of polychromous spiking neural networks. , 2011, , .		7
111	A silicon model of the inner hair cell. , 2011, , .		1
112	Neuromorphic Silicon Neuron Circuits. Frontiers in Neuroscience, 2011, 5, 73.	2.8	1,004
113	Comparison of the measured and theoretical performance of a broadband circular microphone array. Journal of the Acoustical Society of America, 2011, 130, 3827-3837.	1.1	34
114	A programmable axonal propagation delay circuit for time-delay spiking neural networks. , 2011, , .		9
115	Localization in speech mixtures by listeners with hearing loss. Journal of the Acoustical Society of America, 2011, 129, EL210-EL215.	1.1	29
116	Suitability of the INPHAZE impedance analyzer for Bio-impedance and EIT. Journal of Physics: Conference Series, 2010, 224, 012014.	0.4	0
117	Adaptive Sound Localization with a Silicon Cochlea Pair. Frontiers in Neuroscience, 2010, 4, 196.	2.8	15
118	An ultra-high input impedance ECG amplifier for long-term monitoring of athletes. Medical Devices: Evidence and Research, 2010, 3, 1.	0.8	50
119	Investigating the implications of outer hair cell connectivity using a silicon cochlea. , 2010, , .		1
120	Event-based 64-channel binaural silicon cochlea with Q enhancement mechanisms. , 2010, , .		65
121	A log-domain implementation of the Mihalas-Niebur neuron model. , 2010, , .		29
122	Live demonstration: The self-tuned regenerative electromechanical parametric amplifier. , 2010, , .		0
123	A log-domain implementation of the Izhikevich neuron model. , 2010, , .		45
124	The self-tuned regenerative electromechanical arametric amplifier: A model for Active amplification in the cochlea. , 2010, , .		4
125	Symbolic analysis of the Tau Cell log-domain filter using affine MOSFET models. , 2010, , .		1
126	A new EEG recording system for passive dry electrodes. Clinical Neurophysiology, 2010, 121, 686-693.	1.5	175

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127	Dry electrode bio-potential recordings. , 2010, 2010, 6493-6.		24
128	Silicon Models of the Auditory Pathway. Springer Handbook of Auditory Research, 2010, , 261-276.	0.7	5
129	Wearable dry sensors with bluetooth connection for use in remote patient monitoring systems. Studies in Health Technology and Informatics, 2010, 161, 57-65.	0.3	16
130	Sound localisation with a silicon cochlea pair. , 2009, , .		7
131	A psychophysical evaluation of near-field head-related transfer functions synthesized using a distance variation function. Journal of the Acoustical Society of America, 2009, 125, 2233-2242.	1.1	37
132	Acoustic holography with a concentric rigid and open spherical microphone array. , 2009, , .		11
133	The Design and Evaluation of an Economically Constructed Anechoic Chamber. Architectural Science Review, 2009, 52, 312-319.	2.2	8
134	A First-Order Nonhomogeneous Markov Model for the Response of Spiking Neurons Stimulated by Small Phase-Continuous Signals. Neural Computation, 2009, 21, 1554-1588.	2.2	11
135	Benefit from spatial separation of multiple talkers in bilateral hearing-aid users: Effects of hearing loss, age, and cognition. International Journal of Audiology, 2009, 48, 758-774.	1.7	60
136	Code-Division-Multiplexed Electrical Impedance Tomography Spectroscopy. IEEE Transactions on Biomedical Circuits and Systems, 2009, 3, 332-338.	4.0	20
137	Self-tuned regenerative amplification and the hopf bifurcation. , 2008, , .		9
138	A mobile EEG system with dry electrodes. , 2008, , .		59
139	Analogue VLSI implementations of two dimensional, nonlinear, active cochlea models. , 2008, , .		10
140	Mobile biomedical sensing with dry electrodes. , 2008, , .		15
141	An Active 2-D Silicon Cochlea. IEEE Transactions on Biomedical Circuits and Systems, 2008, 2, 30-43.	4.0	130
142	Measuring the impedance of a tethered bilayer membrane biosensor. , 2008, , .		2
143	An empirical evaluation of a two-dimensional second-order sound field recording and reproduction system. , 2008, , .		0
144	Estimating a sound signal in a known direction from a soundfield microphone recording. , 2008, , .		2

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145	Measured and theoretical performance comparison of a co-centred rigid and open spherical microphone array. , 2008, , .		7
146	A 2-D silicon cochlea with an improved automatic quality factor control-loop. , 2008, , .		7
147	A Basilar Membrane Resonator for an Active 2-D Cochlea. , 2007, , .		4
148	A 2-D Cochlea with Hopf Oscillators. , 2007, , .		12
149	An Address-Event Vision Sensor for Multiple Transient Object Detection. IEEE Transactions on Biomedical Circuits and Systems, 2007, 1, 278-288.	4.0	11
150	Directional hearing in a silicon cricket. BioSystems, 2007, 87, 307-313.	2.0	4
151	Bias Current Generators with Wide Dynamic Range. Analog Integrated Circuits and Signal Processing, 2005, 43, 247-268.	1.4	58
152	The role of high frequencies in speech localization. Journal of the Acoustical Society of America, 2005, 118, 353-363.	1.1	112
153	Separation of concurrent broadband sound sources by human listeners. Journal of the Acoustical Society of America, 2004, 115, 324-336.	1.1	45
154	A Neuromorphic Sound Localizer for a Smart MEMS System. Analog Integrated Circuits and Signal Processing, 2004, 39, 267-273.	1.4	29
155	Contrasting monaural and interaural spectral cues for human sound localization. Journal of the Acoustical Society of America, 2004, 115, 3124-3141.	1.1	44
156	An Analogue VLSI Implementation of the Meddis Inner Hair Cell Model. Eurasip Journal on Advances in Signal Processing, 2003, 2003, 1.	1.7	6
157	An Analog VLSI Model of Periodicity Extraction in the Human Auditory System. Analog Integrated Circuits and Signal Processing, 2001, 26, 157-177.	1.4	13
158	A Log-Domain CMOS Transcapacitor: Design, Analysis and Applications. Analog Integrated Circuits and Signal Processing, 2000, 22, 195-208.	1.4	5
159	HUMAN LOCALISATION OF BAND-PASS FILTERED NOISE. International Journal of Neural Systems, 1999, 09, 441-446.	5.2	12
160	Analog very large-scale integrated (VLSI) implementation of a model of amplitude-modulation sensitivity in the auditory brainstem. Journal of the Acoustical Society of America, 1999, 105, 811-821.	1.1	24
161	Design of an Analogue VLSI Model of an Active Cochlea. Analog Integrated Circuits and Signal Processing, 1997, 13, 19-35.	1.4	28
162	The Electronic Ear. , 1996, , 233-250.		1