

André van Schaik

List of Publications by Year in descending order

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162
papers

4,937
citations

172457

29
h-index

144013

57
g-index

172
all docs

172
docs citations

172
times ranked

4405
citing authors

#	ARTICLE	IF	CITATIONS
19	An ultra-high input impedance ECG amplifier for long-term monitoring of athletes. <i>Medical Devices: Evidence and Research</i> , 2010, 3, 1.	0.8	50
20	Astrocytic modulation of cortical oscillations. <i>Scientific Reports</i> , 2018, 8, 11565.	3.3	48
21	Separation of concurrent broadband sound sources by human listeners. <i>Journal of the Acoustical Society of America</i> , 2004, 115, 324-336.	1.1	45
22	A log-domain implementation of the Izhikevich neuron model. , 2010, , .		45
23	Contrasting monaural and interaural spectral cues for human sound localization. <i>Journal of the Acoustical Society of America</i> , 2004, 115, 3124-3141.	1.1	44
24	A Review of Control Strategies in Closed-Loop Neuroprosthetic Systems. <i>Frontiers in Neuroscience</i> , 2016, 10, 312.	2.8	44
25	Skimming Digits: Neuromorphic Classification of Spike-Encoded Images. <i>Frontiers in Neuroscience</i> , 2016, 10, 184.	2.8	43
26	Online and adaptive pseudoinverse solutions for ELM weights. <i>Neurocomputing</i> , 2015, 149, 233-238.	5.9	38
27	Calcium Imaging of AM Dyes Following Prolonged Incubation in Acute Neuronal Tissue. <i>PLoS ONE</i> , 2016, 11, e0155468.	2.5	38
28	Efficient FPGA Implementations of Pair and Triplet-Based STDP for Neuromorphic Architectures. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2019, 66, 1558-1570.	5.4	38
29	A psychophysical evaluation of near-field head-related transfer functions synthesized using a distance variation function. <i>Journal of the Acoustical Society of America</i> , 2009, 125, 2233-2242.	1.1	37
30	Neuromorphic Hardware Architecture Using the Neural Engineering Framework for Pattern Recognition. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2017, 11, 574-584.	4.0	37
31	An FPGA-Based Massively Parallel Neuromorphic Cortex Simulator. <i>Frontiers in Neuroscience</i> , 2018, 12, 213.	2.8	37
32	Event-based Sensing for Space Situational Awareness. <i>Journal of the Astronautical Sciences</i> , 2019, 66, 125-141.	1.5	37
33	Comparison of the measured and theoretical performance of a broadband circular microphone array. <i>Journal of the Acoustical Society of America</i> , 2011, 130, 3827-3837.	1.1	34
34	A FPGA Implementation of the CAR-FAC Cochlear Model. <i>Frontiers in Neuroscience</i> , 2018, 12, 198.	2.8	30
35	A Neuromorphic Sound Localizer for a Smart MEMS System. <i>Analog Integrated Circuits and Signal Processing</i> , 2004, 39, 267-273.	1.4	29
36	A log-domain implementation of the Mihalas-Niebur neuron model. , 2010, , .		29

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37	Localization in speech mixtures by listeners with hearing loss. Journal of the Acoustical Society of America, 2011, 129, EL210-EL215.	1.1	29
38	Design of an Analogue VLSI Model of an Active Cochlea. Analog Integrated Circuits and Signal Processing, 1997, 13, 19-35.	1.4	28
39	Bayesian Estimation and Inference Using Stochastic Electronics. Frontiers in Neuroscience, 2016, 10, 104.	2.8	26
40	A mixed-signal implementation of a polychronous spiking neural network with delay adaptation. Frontiers in Neuroscience, 2014, 8, 51.	2.8	25
41	An FPGA design framework for large-scale spiking neural networks. , 2014, , .		25
42	A neuromorphic implementation of multiple spike-timing synaptic plasticity rules for large-scale neural networks. Frontiers in Neuroscience, 2015, 9, 180.	2.8	25
43	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
44	Dry electrode bio-potential recordings. , 2010, 2010, 6493-6.		24
45	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
46	Event-Based Object Detection and Tracking for Space Situational Awareness. IEEE Sensors Journal, 2020, 20, 15117-15132.	4.7	23
47	Towards true unipolar bio-potential recording: a preliminary result for ECG. Physiological Measurement, 2013, 34, N1-N7.	2.1	21
48	FPGA implementation of the CAR Model of the cochlea. , 2014, , .		21
49	Code-Division-Multiplexed Electrical Impedance Tomography Spectroscopy. IEEE Transactions on Biomedical Circuits and Systems, 2009, 3, 332-338.	4.0	20
50	Neuromorphic audio-visual sensor fusion on a sound-localizing robot. Frontiers in Neuroscience, 2012, 6, 21.	2.8	20
51	Investigation of Event-Based Surfaces for High-Speed Detection, Unsupervised Feature Extraction, and Object Recognition. Frontiers in Neuroscience, 2018, 12, 1047.	2.8	20
52	Event-Based Feature Extraction Using Adaptive Selection Thresholds. Sensors, 2020, 20, 1600.	3.8	19
53	Advances in Machine Learning and Deep Neural Networks. Proceedings of the IEEE, 2021, 109, 607-611.	21.3	19
54	Towards true unipolar ECG recording without the Wilson central terminal (preliminary results). Physiological Measurement, 2013, 34, 991-1012.	2.1	18

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55	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
56	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
57	The adaptation of spike backpropagation delays in cortical neurons. Frontiers in Cellular Neuroscience, 2013, 7, 192.	3.7	17
58	Racing to learn: statistical inference and learning in a single spiking neuron with adaptive kernels. Frontiers in Neuroscience, 2014, 8, 377.	2.8	17
59	Spatial and Temporal Downsampling in Event-Based Visual Classification. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 5030-5044.	11.3	17
60	Star Tracking Using an Event Camera. , 2019, , .		17
61	Low Power, CMOS-MoS2 Memtransistor based Neuromorphic Hybrid Architecture for Wake-Up Systems. Scientific Reports, 2019, 9, 15604.	3.3	16
62	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
63	Mobile biomedical sensing with dry electrodes. , 2008, , .		15
64	Adaptive Sound Localization with a Silicon Cochlea Pair. Frontiers in Neuroscience, 2010, 4, 196.	2.8	15
65	Sound stream segregation: a neuromorphic approach to solve the "cocktail party problem" in real-time. Frontiers in Neuroscience, 2015, 9, 309.	2.8	15
66	Explicit Computation of Input Weights in Extreme Learning Machines. Proceedings in Adaptation, Learning and Optimization, 2015, , 41-49.	1.6	15
67	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
68	Time domain reconstruction of spatial sound fields using compressed sensing. , 2011, , .		13
69	A neuromorphic hardware framework based on population coding. , 2015, , .		13
70	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
71	HUMAN LOCALISATION OF BAND-PASS FILTERED NOISE. International Journal of Neural Systems, 1999, 09, 441-446.	5.2	12
72	A 2-D Cochlea with Hopf Oscillators. , 2007, , .		12

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73	Investigating the role of combined acoustic-visual feedback in one-dimensional synchronous brain computer interfaces, a preliminary study. <i>Medical Devices: Evidence and Research</i> , 2012, 5, 81.	0.8	12
74	A comparison of extreme learning machines and back-propagation trained feed-forward networks processing the mnist database. , 2015, , .		12
75	Breaking Liebig's Law: An Advanced Multipurpose Neuromorphic Engine. <i>Frontiers in Neuroscience</i> , 2018, 12, 593.	2.8	12
76	An Address-Event Vision Sensor for Multiple Transient Object Detection. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2007, 1, 278-288.	4.0	11
77	Acoustic holography with a concentric rigid and open spherical microphone array. , 2009, , .		11
78	A First-Order Nonhomogeneous Markov Model for the Response of Spiking Neurons Stimulated by Small Phase-Continuous Signals. <i>Neural Computation</i> , 2009, 21, 1554-1588.	2.2	11
79	A Neuroethics Framework for the Australian Brain Initiative. <i>Neuron</i> , 2019, 101, 365-369.	8.1	11
80	Event Camera Simulator Improvements via Characterized Parameters. <i>Frontiers in Neuroscience</i> , 2021, 15, 702765.	2.8	11
81	Analogue VLSI implementations of two dimensional, nonlinear, active cochlea models. , 2008, , .		10
82	Pregnancy detection and monitoring in cattle via combined foetus electrocardiogram and phonocardiogram signal processing. <i>BMC Veterinary Research</i> , 2012, 8, 164.	1.9	10
83	A compact reconfigurable mixed-signal implementation of synaptic plasticity in spiking neurons. , 2014, , .		10
84	A compact aVLSI conductance-based silicon neuron. , 2015, , .		10
85	Event-Based Processing of Single Photon Avalanche Diode Sensors. <i>IEEE Sensors Journal</i> , 2020, 20, 7677-7691.	4.7	10
86	Self-tuned regenerative amplification and the hopf bifurcation. , 2008, , .		9
87	A programmable axonal propagation delay circuit for time-delay spiking neural networks. , 2011, , .		9
88	Active electrode design suitable for simultaneous EIT and EEG. <i>Electronics Letters</i> , 2012, 48, 1583-1584.	1.0	9
89	A 1.2V 2-bit phase interpolator for 65nm CMOS. , 2012, , .		9
90	An aVLSI programmable axonal delay circuit with spike timing dependent delay adaptation. , 2012, , .		9

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91	A generalised conductance-based silicon neuron for large-scale spiking neural networks. , 2014, , .		9
92	Electronic cochlea: CAR-FAC model on FPGA. , 2016, , .		9
93	Prolonged Incubation of Acute Neuronal Tissue for Electrophysiology and Calcium-imaging. Journal of Visualized Experiments, 2017, , .	0.3	9
94	Event-Based Computation for Touch Localization Based on Precise Spike Timing. Frontiers in Neuroscience, 2020, 14, 420.	2.8	9
95	The Design and Evaluation of an Economically Constructed Anechoic Chamber. Architectural Science Review, 2009, 52, 312-319.	2.2	8
96	A 0.3mm ² 10-b 100MS/s pipelined ADC using Nauta structure op-amps in 180nm CMOS. , 2013, , .		8
97	A Binaural Sound Localization System using Deep Convolutional Neural Networks. , 2019, , .		8
98	Vibrotactile sensitivity of patients with HIV-related sensory neuropathy: An exploratory study. Brain and Behavior, 2019, 9, e01184.	2.2	8
99	Measured and theoretical performance comparison of a co-centred rigid and open spherical microphone array. , 2008, , .		7
100	A 2-D silicon cochlea with an improved automatic quality factor control-loop. , 2008, , .		7
101	Sound localisation with a silicon cochlea pair. , 2009, , .		7
102	An analogue VLSI implementation of polychromatic spiking neural networks. , 2011, , .		7
103	An asynchronous parallel neuromorphic ADC architecture. , 2012, , .		7
104	The ripple pond: enabling spiking networks to see. Frontiers in Neuroscience, 2013, 7, 212.	2.8	7
105	A compact neural core for digital implementation of the Neural Engineering Framework. , 2014, , .		7
106	A digital to transconductance converter for nauta structure op-amps in 65nm CMOS. , 2014, , .		7
107	Live demonstration: FPGA implementation of the CAR model of the cochlea. , 2014, , .		7
108	An Analogue VLSI Implementation of the Meddis Inner Hair Cell Model. Eurasip Journal on Advances in Signal Processing, 2003, 2003, 1.	1.7	6

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109	Emergence of competitive control in a memristor-based neuromorphic circuit. , 2012, , .		6
110	FPGA implementation of biologically-inspired auto-associative memory. Electronics Letters, 2012, 48, 148.	1.0	6
111	A stochastic approach to STDP. , 2016, , .		6
112	Low-power transcutaneous current stimulator for wearable applications. BioMedical Engineering OnLine, 2017, 16, 118.	2.7	6
113	A pneumatic Bionic Voice prosthesisâ€”Pre-clinical trials of controlling the voice onset and offset. PLoS ONE, 2018, 13, e0192257.	2.5	6
114	A Log-Domain CMOS Transcapacitor: Design, Analysis and Applications. Analog Integrated Circuits and Signal Processing, 2000, 22, 195-208.	1.4	5
115	ELM solutions for event-based systems. Neurocomputing, 2015, 149, 435-442.	5.9	5
116	A Machine Hearing System for Binaural Sound Localization based on Instantaneous Correlation. , 2018, , .		5
117	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
118	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
119	FPGA Implementation of Particle Filters for Robotic Source Localization. IEEE Access, 2021, 9, 98185-98203.	4.2	5
120	Silicon Models of the Auditory Pathway. Springer Handbook of Auditory Research, 2010, , 261-276.	0.7	5
121	Embedded implementation of a random feature detecting network for real-time classification of time-of-flight SPAD array recordings. , 2019, , .		5
122	A Basilar Membrane Resonator for an Active 2-D Cochlea. , 2007, , .		4
123	Directional hearing in a silicon cricket. BioSystems, 2007, 87, 307-313.	2.0	4
124	The self-tuned regenerative electromechanical arametric amplifier: A model for Active amplification in the cochlea. , 2010, , .		4
125	Spiking neural network-based auto-associative memory using FPGA interconnect delays. , 2011, , .		4
126	Temporal Order Detection and Coding in Nervous Systems. Neural Computation, 2013, 25, 510-531.	2.2	4

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127	An improved aVLSI axon with programmable delay using spike timing dependent delay plasticity. , 2013, , .		4
128	Unipolar ECG circuits: Towards more precise cardiac event identification. , 2013, , .		4
129	Approximate, Computationally Efficient Online Learning in Bayesian Spiking Neurons. Neural Computation, 2014, 26, 472-496.	2.2	4
130	A Biologically Inspired Sound Localisation System Using a Silicon Cochlea Pair. Applied Sciences (Switzerland), 2021, 11, 1519.	2.5	4
131	Noise-robust text-dependent speaker identification using cochlear models. Journal of the Acoustical Society of America, 2022, 151, 500-516.	1.1	4
132	Real-Time Event-Based Unsupervised Feature Consolidation and Tracking for Space Situational Awareness. Frontiers in Neuroscience, 2022, 16, .	2.8	4
133	Silicon implementation of the generalized integrate-and-fire neuron model. , 2011, , .		3
134	Research topic: neuromorphic engineering systems and applications. A snapshot of neuromorphic systems engineering. Frontiers in Neuroscience, 2014, 8, 424.	2.8	3
135	Sleep apnoea episodes recognition by a committee of ELM classifiers from ECG signal. , 2015, 2015, 7675-8.		3
136	A reconfigurable mixed-signal implementation of a neuromorphic ADC. , 2015, , .		3
137	Measurement of perception thresholds for electrical noise stimuli. , 2017, 2017, 2166-2169.		3
138	CAR-Lite: A Multi-Rate Cochlea Model on FPGA. , 2018, , .		3
139	Measuring the impedance of a tethered bilayer membrane biosensor. , 2008, , .		2
140	Estimating a sound signal in a known direction from a soundfield microphone recording. , 2008, , .		2
141	Decoding force from multiunit recordings from the median nerve. , 2015, , .		2
142	Inference in spiking Bayesian neurons using stochastic computation. , 2017, , .		2
143	Single-Bit-per-Weight Deep Convolutional Neural Networks without Batch-Normalization Layers for Embedded Systems. , 2019, , .		2
144	Neuromorphic Engineering Needs Closed-Loop Benchmarks. Frontiers in Neuroscience, 2022, 16, 813555.	2.8	2

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145	Martingales and the fixation time of evolutionary graphs with arbitrary dimensionality. Royal Society Open Science, 2022, 9, 220011.	2.4	2
146	Investigating the implications of outer hair cell connectivity using a silicon cochlea. , 2010, , .		1
147	Symbolic analysis of the Tau Cell log-domain filter using affine MOSFET models. , 2010, , .		1
148	A silicon model of the inner hair cell. , 2011, , .		1
149	An SRAM-based implementation of a convolutional neural network. , 2016, , .		1
150	Martingales and the characteristic functions of absorption time on bipartite graphs. Royal Society Open Science, 2021, 8, 210657.	2.4	1
151	The Electronic Ear. , 1996, , 233-250.		1
152	The Bayesian Decoding of Force Stimuli from Slowly Adapting Type I Fibers in Humans. PLoS ONE, 2016, 11, e0153366.	2.5	1
153	An empirical evaluation of a two-dimensional second-order sound field recording and reproduction system. , 2008, , .		0
154	Suitability of the INPHAZE impedance analyzer for Bio-impedance and EIT. Journal of Physics: Conference Series, 2010, 224, 012014.	0.4	0
155	Live demonstration: The self-tuned regenerative electromechanical parametric amplifier. , 2010, , .		0
156	A method for measuring switching frequency using complex asynchronous logic circuits. , 2012, , .		0
157	Online learning in Bayesian Spiking Neurons. , 2012, , .		0
158	Convergence analysis of efficient online learning in Bayesian spiking neurons. BMC Neuroscience, 2012, 13, .	1.9	0
159	A point process approach to encode tactile afferents. , 2015, , .		0
160	Live Demonstration: An FPGA-Based Emulation of an Event-Based Vision Sensor Using Commercially Available Camera. , 2021, , .		0
161	Implantable hearing interfaces. , 2018, , .		0
162	Neuromorphic Sensors, Cochlea. , 2022, , 2325-2329.		0