

Giacomo Indiveri

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

226
papers

7,300
citations

37
h-index

80
g-index

256
ext. papers

9,180
ext. citations

5.4
avg, IF

6.45
L-index

#	Paper	IF	Citations
226	A neuromorphic spiking neural network detects epileptic high frequency oscillations in the scalp EEG.. <i>Scientific Reports</i> , 2022 , 12, 1798	4.9	1
225	Memristive Computing Devices and Applications. <i>Kluwer International Series in Electronic Materials: Science and Technology</i> , 2022 , 5-32		
224	Embodied neuromorphic intelligence.. <i>Nature Communications</i> , 2022 , 13, 1024	17.4	4
223	Introducing principles of synaptic integration in the optimization of deep neural networks.. <i>Nature Communications</i> , 2022 , 13, 1885	17.4	3
222	Organic Log-Domain Integrator Synapse. <i>Advanced Electronic Materials</i> , 2022 , 8, 2100724	6.4	1
221	Reconfigurable halide perovskite nanocrystal memristors for neuromorphic computing.. <i>Nature Communications</i> , 2022 , 13, 2074	17.4	15
220	Neuromorphic Cognition 2022 , 2313-2322		
219	Supervised training of spiking neural networks for robust deployment on mixed-signal neuromorphic processors. <i>Scientific Reports</i> , 2021 , 11, 23376	4.9	3
218	Organic electronics Axon-Hillock neuromorphic circuit: towards biologically compatible, and physically flexible, integrate-and-fire spiking neural networks. <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 104004	3	7
217	A spiking neural network (SNN) for detecting high frequency oscillations (HFOs) in the intraoperative ECoG. <i>Scientific Reports</i> , 2021 , 11, 6719	4.9	5
216	Implementing Efficient Balanced Networks with Mixed-Signal Spike-Based Learning Circuits 2021 ,		1
215	An electronic neuromorphic system for real-time detection of high frequency oscillations (HFO) in intracranial EEG. <i>Nature Communications</i> , 2021 , 12, 3095	17.4	13
214	Neuromorphic Pattern Generation Circuits for Bioelectronic Medicine 2021 ,		2
213	PCM-Trace: Scalable Synaptic Eligibility Traces with Resistivity Drift of Phase-Change Materials 2021 ,		3
212	Online Detection of Vibration Anomalies Using Balanced Spiking Neural Networks 2021 ,		2
211	Introducing Neuromorphic Computing and Engineering <i>Neuromorphic Computing and Engineering</i> , 2021 , 1, 010401		2
210	Robust neuromorphic coupled oscillators for adaptive pacemakers. <i>Scientific Reports</i> , 2021 , 11, 18073	4.9	0

209	A robust model of Stimulus-Specific Adaptation validated on neuromorphic hardware. <i>Scientific Reports</i> , 2021 , 11, 17904	4.9	0
208	Ultra-Low-Power FDSOI Neural Circuits for Extreme-Edge Neuromorphic Intelligence. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2021 , 68, 45-56	3.9	11
207	Event-Based Computation for Touch Localization Based on Precise Spike Timing. <i>Frontiers in Neuroscience</i> , 2020 , 14, 420	5.1	4
206	A recipe for creating ideal hybrid memristive-CMOS neuromorphic processing systems. <i>Applied Physics Letters</i> , 2020 , 116, 120501	3.4	31
205	System-level integration in neuromorphic co-processors 2020 , 479-497		1
204	Memristive synapses connect brain and silicon spiking neurons. <i>Scientific Reports</i> , 2020 , 10, 2590	4.9	33
203	Neuromorphic Implementation of Spiking Relational Neural Network for Motor Control 2020 ,		7
202	An error-propagation spiking neural network compatible with neuromorphic processors 2020 ,		2
201	EMG-Based Gestures Classification Using a Mixed-Signal Neuromorphic Processing System. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2020 , 10, 578-587	5.2	6
200	Closed-Loop Spiking Control on a Neuromorphic Processor Implemented on the iCub. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2020 , 10, 546-556	5.2	11
199	2020 ,		2
198	Parameter Optimization and Learning in a Spiking Neural Network for UAV Obstacle Avoidance Targeting Neuromorphic Processors. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2020 , 31, 3305-3318	10.3	9
197	Mapping Spiking Neural Networks to Neuromorphic Hardware. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2020 , 28, 76-86	2.6	35
196	Analog Weight Updates with Compliance Current Modulation of Binary ReRAMs for On-Chip Learning 2020 ,		4
195	A Spike-Based Neuromorphic Architecture of Stereo Vision. <i>Frontiers in Neurobotics</i> , 2020 , 14, 568283	3.4	5
194	Nanoscale Room-Temperature Multilayer Skyrmionic Synapse for Deep Spiking Neural Networks. <i>Physical Review Applied</i> , 2020 , 14,	4.3	6
193	Hardware Implementation of Deep Network Accelerators Towards Healthcare and Biomedical Applications. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2020 , 14, 1138-1159	5.1	28
192	A Spiking Network for Inference of Relations Trained with Neuromorphic Backpropagation 2019 ,		1

191	Synaptic and neuromorphic functions: general discussion. <i>Faraday Discussions</i> , 2019 , 213, 553-578	3.6	1
190	Spike-Based Plasticity Circuits for Always-on On-Line Learning in Neuromorphic Systems 2019 ,		7
189	Hybrid CMOS-RRAM Neurons with Intrinsic Plasticity 2019 ,		5
188	A Neuromorphic Computational Primitive for Robust Context-Dependent Decision Making and Context-Dependent Stochastic Computation. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2019 , 66, 843-847	3.5	8
187	A neuromorphic systems approach to in-memory computing with non-ideal memristive devices: from mitigation to exploitation. <i>Faraday Discussions</i> , 2019 , 213, 487-510	3.6	32
186	Robust Learning and Recognition of Visual Patterns in Neuromorphic Electronic Agents 2019 ,		1
185	An Ultra-Low Power Sigma-Delta Neuron Circuit 2019 ,		3
184	Discrimination of EMG Signals Using a Neuromorphic Implementation of a Spiking Neural Network. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2019 , 13, 795-803	5.1	30
183	Hybrid neuromorphic circuits exploiting non-conventional properties of RRAM for massively parallel local plasticity mechanisms. <i>APL Materials</i> , 2019 , 7, 081125	5.7	16
182	ECG-based Heartbeat Classification in Neuromorphic Hardware 2019 ,		14
181	The Importance of Space and Time for Signal Processing in Neuromorphic Agents: The Challenge of Developing Low-Power, Autonomous Agents That Interact With the Environment. <i>IEEE Signal Processing Magazine</i> , 2019 , 36, 16-28	9.4	17
180	A Neuromorphic Device for Detecting High-Frequency Oscillations in Human iEEG 2019 ,		10
179	Ultra-Low Power Silicon Neuron Circuit for Extreme-Edge Neuromorphic Intelligence 2019 ,		9
178	Live Demonstration: Face Recognition on an Ultra-Low Power Event-Driven Convolutional Neural Network ASIC 2019 ,		1
177	Neural State Machines for Robust Learning and Control of Neuromorphic Agents. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2019 , 9, 679-689	5.2	5
176	Real-Time Ultra-Low Power ECG Anomaly Detection Using an Event-Driven Neuromorphic Processor. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2019 , 13, 1575-1582	5.1	25
175	Optimal solid state neurons. <i>Nature Communications</i> , 2019 , 10, 5309	17.4	31
174	Extended memory lifetime in spiking neural networks employing memristive synapses with nonlinear conductance dynamics. <i>Nanotechnology</i> , 2019 , 30, 015102	3.4	25

173	Spike-driven threshold-based learning with memristive synapses and neuromorphic silicon neurons. <i>Journal Physics D: Applied Physics</i> , 2018 , 51, 344003	3	20
172	Insect-Inspired Elementary Motion Detection Embracing Resistive Memory and Spiking Neural Networks. <i>Lecture Notes in Computer Science</i> , 2018 , 115-128	0.9	4
171	Event-based circuits for controlling stochastic learning with memristive devices in neuromorphic architectures 2018 ,		11
170	Deriving optimal silicon neuron circuit specifications using Data Assimilation 2018 ,		1
169	A Scalable Multicore Architecture With Heterogeneous Memory Structures for Dynamic Neuromorphic Asynchronous Processors (DYNAPs). <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018 , 12, 106-122	5.1	198
168	In-depth Characterization of Resistive Memory-Based Ternary Content Addressable Memories 2018 ,		9
167	Large-Scale Neuromorphic Spiking Array Processors: A Quest to Mimic the Brain. <i>Frontiers in Neuroscience</i> , 2018 , 12, 891	5.1	95
166	Processing EMG signals using reservoir computing on an event-based neuromorphic system 2018 ,		15
165	Organizing Sequential Memory in a Neuromorphic Device Using Dynamic Neural Fields. <i>Frontiers in Neuroscience</i> , 2018 , 12, 717	5.1	5
164	Open-Loop Neuromorphic Controller Implemented on VLSI Devices 2018 ,		12
163	A spiking neural network model of 3D perception for event-based neuromorphic stereo vision systems. <i>Scientific Reports</i> , 2017 , 7, 40703	4.9	31
162	2017 ,		6
161	Memristive computing devices and applications. <i>Journal of Electroceramics</i> , 2017 , 39, 4-20	1.5	30
160	A differential memristive synapse circuit for on-line learning in neuromorphic computing systems. <i>Nano Futures</i> , 2017 , 1, 035003	3.6	27
159	A fully-synthesized 20-gate digital spike-based synapse with embedded online learning 2017 ,		9
158	Obstacle avoidance and target acquisition in mobile robots equipped with neuromorphic sensory-processing systems 2017 ,		5
157	Obstacle avoidance with LGMD neuron: Towards a neuromorphic UAV implementation 2017 ,		14
156	A compact ultra low-power pulse delay and extension circuit for neuromorphic processors 2017 ,		1

155	Activity dependent structural plasticity in neuromorphic systems 2017 ,		1
154	Robust state-dependent computation in neuromorphic electronic systems 2017 ,		6
153	On-chip unsupervised learning in winner-take-all networks of spiking neurons 2017 ,		9
152	Analog circuits for mixed-signal neuromorphic computing architectures in 28 nm FD-SOI technology 2017 ,		5
151	An Ultralow Leakage Synaptic Scaling Homeostatic Plasticity Circuit With Configurable Time Scales up to 100 ks. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2017 , 11, 1271-1277	5.1	15
150	Obstacle Avoidance and Target Acquisition for Robot Navigation Using a Mixed Signal Analog/Digital Neuromorphic Processing System. <i>Frontiers in Neurobotics</i> , 2017 , 11, 28	3.4	42
149	Neuromorphic Systems 2016 , 1-22		4
148	ReRAM-Based Neuromorphic Computing 2016 , 715-736		15
147	Wide dynamic range weights and biologically realistic synaptic dynamics for spike-based learning circuits 2016 ,		1
146	A novel spiking CPG-based implementation system to control a lamprey robot 2016 ,		3
145	A Bidirectional Brain-Machine Interface Featuring a Neuromorphic Hardware Decoder. <i>Frontiers in Neuroscience</i> , 2016 , 10, 563	5.1	37
144	Automatic gain control of ultra-low leakage synaptic scaling homeostatic plasticity circuits 2016 ,		2
143	Tunable device-mismatch effects for stochastic computation in analog/digital neuromorphic computing architectures 2016 ,		2
142	An auto-scaling wide dynamic range current to frequency converter for real-time monitoring of signals in neuromorphic systems 2016 ,		2
141	Beyond spike-timing dependent plasticity in memristor crossbar arrays 2016 ,		9
140	Emulating short-term synaptic dynamics with memristive devices. <i>Scientific Reports</i> , 2016 , 6, 18639	4.9	84
139	Scaling mixed-signal neuromorphic processors to 28 nm FD-SOI technologies 2016 ,		23
138	2016 ,		14

137	Neuromorphic Engineering 2015 , 715-725		5
136	Rhythmic Inhibition Allows Neural Networks to Search for Maximally Consistent States. <i>Neural Computation</i> , 2015 , 27, 2510-47	2.9	6
135	Decision making and perceptual bistability in spike-based neuromorphic VLSI systems 2015 ,		9
134	Memory and Information Processing in Neuromorphic Systems. <i>Proceedings of the IEEE</i> , 2015 , 103, 1379-1397	1.3	386
133	Programmable Spike-Timing-Dependent Plasticity Learning Circuits in Neuromorphic VLSI Architectures. <i>ACM Journal on Emerging Technologies in Computing Systems</i> , 2015 , 12, 1-18	1.7	11
132	A Neuromorphic Event-Based Neural Recording System for Smart Brain-Machine-Interfaces. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2015 , 9, 699-709	5.1	52
131	Neuromorphic architectures for spiking deep neural networks 2015 ,		55
130	Event-based softcore processor in a biohybrid setup applied to structural plasticity 2015 ,		8
129	Local structure supports learning of deterministic behavior in recurrent neural networks. <i>BMC Neuroscience</i> , 2015 , 16,	3.2	78
128	2015 ,		52
127	A reconfigurable on-line learning spiking neuromorphic processor comprising 256 neurons and 128K synapses. <i>Frontiers in Neuroscience</i> , 2015 , 9, 141	5.1	338
126	Implementation of a spike-based perceptron learning rule using TiO ₂ -x memristors. <i>Frontiers in Neuroscience</i> , 2015 , 9, 357	5.1	28
125	A modular configurable system for closed-loop bidirectional brain-machine interfaces 2015 ,		1
124	An event-based architecture for solving constraint satisfaction problems. <i>Nature Communications</i> , 2015 , 6, 8941	17.4	27
123	Spike-Based Synaptic Plasticity in Silicon: Design, Implementation, Application, and Challenges. <i>Proceedings of the IEEE</i> , 2014 , 102, 717-737	14.3	82
122	Mapping arbitrary mathematical functions and dynamical systems to neuromorphic VLSI circuits for spike-based neural computation 2014 ,		18
121	Compact Analog Temporal Edge Detector Circuit With Programmable Adaptive Threshold for Neuromorphic Vision Sensors. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2014 , 61, 3094-3104	3.9	3104
120	An event-based neural network architecture with an asynchronous programmable synaptic memory. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2014 , 8, 98-107	5.1	45

119	. <i>Proceedings of the IEEE</i> , 2014 , 102, 1367-1388	14.3	253
118	Sequential activity in asymmetrically coupled winner-take-all circuits. <i>Neural Computation</i> , 2014 , 26, 1973-2004		
117	Neuromorphic log-domain silicon synapse circuits obey bernoulli dynamics: a unifying tutorial analysis. <i>Frontiers in Neuroscience</i> , 2014 , 8, 428	5.1	6
116	Learning and stabilization of winner-take-all dynamics through interacting excitatory and inhibitory plasticity. <i>Frontiers in Computational Neuroscience</i> , 2014 , 8, 68	3.5	21
115	PyNCS: a microkernel for high-level definition and configuration of neuromorphic electronic systems. <i>Frontiers in Neuroinformatics</i> , 2014 , 8, 73	3.9	13
114	Hardware Infrastructure 2014 , 305-348		
113	Software Infrastructure 2014 , 349-364		
112	Smart motion sensing for autonomous robots 2014 ,		1
111	Ultra low leakage synaptic scaling circuits for implementing homeostatic plasticity in neuromorphic architectures 2014 ,		10
110	A spiking implementation of the lamprey's Central Pattern Generator in neuromorphic VLSI 2014 ,		9
109	Silicon Neurons 2014 , 153-183		
108	Silicon Synapses 2014 , 185-217		
107	A hybrid analog/digital Spike-Timing Dependent Plasticity learning circuit for neuromorphic VLSI multi-neuron architectures 2014 ,		6
106	Toward neuromorphic intelligent brain-machine interfaces: An event-based neural recording and processing system 2014 ,		3
105	Towards a neuromorphic vestibular system. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2014 , 8, 669-80	5.1	9
104	Concept Learning in Neuromorphic Vision Systems: What Can We Learn from Insects?. <i>Journal of Software Engineering and Applications</i> , 2014 , 07, 387-395	0.6	9
103	Integration of nanoscale memristor synapses in neuromorphic computing architectures. <i>Nanotechnology</i> , 2013 , 24, 384010	3.4	356
102	2013 ,		9

101	A robust sound perception model suitable for neuromorphic implementation. <i>Frontiers in Neuroscience</i> , 2013 , 7, 278	5.1	6
100	Dynamic evolving spiking neural networks for on-line spatio- and spectro-temporal pattern recognition. <i>Neural Networks</i> , 2013 , 41, 188-201	9.1	227
99	A memory-efficient routing method for large-scale spiking neural networks 2013 ,		9
98	Automated synthesis of asynchronous event-based interfaces for neuromorphic systems 2013 ,		2
97	Synthesizing cognition in neuromorphic electronic systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E3468-76	11.5	92
96	STDP and STDP variations with memristors for spiking neuromorphic learning systems. <i>Frontiers in Neuroscience</i> , 2013 , 7, 2	5.1	274
95	Spatio-temporal Spike Pattern Classification in Neuromorphic Systems. <i>Lecture Notes in Computer Science</i> , 2013 , 262-273	0.9	14
94	NeuCube Neuromorphic Framework for Spatio-temporal Brain Data and Its Python Implementation. <i>Lecture Notes in Computer Science</i> , 2013 , 78-84	0.9	11
93	Exploiting device mismatch in neuromorphic VLSI systems to implement axonal delays 2012 ,		13
92	Online spatio-temporal pattern recognition with evolving spiking neural networks utilising address event representation, rank order, and temporal spike learning 2012 ,		39
91	Function approximation with uncertainty propagation in a VLSI spiking neural network 2012 ,		1
90	Emergent Auditory Feature Tuning in a Real-Time Neuromorphic VLSI System. <i>Frontiers in Neuroscience</i> , 2012 , 6, 17	5.1	15
89	Dynamic state and parameter estimation applied to neuromorphic systems. <i>Neural Computation</i> , 2012 , 24, 1669-94	2.9	9
88	2012 ,		3
87	A Real-Time Event-Based Selective Attention System for Active Vision 2012 , 205-219		3
86	Systematic Construction of Finite State Automata Using VLSI Spiking Neurons. <i>Lecture Notes in Computer Science</i> , 2012 , 382-383	0.9	2
85	A systematic method for configuring VLSI networks of spiking neurons. <i>Neural Computation</i> , 2011 , 23, 2457-97	2.9	47
84	Neuromorphic silicon neuron circuits. <i>Frontiers in Neuroscience</i> , 2011 , 5, 73	5.1	693

83	A Model of Stimulus-Specific Adaptation in Neuromorphic Analog VLSI. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2011 , 5, 413-9	5.1	11
82	Frontiers in neuromorphic engineering. <i>Frontiers in Neuroscience</i> , 2011 , 5, 118	5.1	116
81	eMorph: Towards Neuromorphic Robotic Vision. <i>Procedia Computer Science</i> , 2011 , 7, 163-165	1.6	4
80	A PCI based high-fanout AER mapper with 2 GiB RAM look-up table, 0.8 μ s latency and 66MHz output event-rate 2011 ,		12
79	Embedded neuromorphic vision for humanoid robots 2011 ,		27
78	A VLSI network of spiking neurons with an asynchronous static random access memory 2011 ,		15
77	A neuromorphic saliency-map based active vision system 2011 ,		6
76	2011 ,		8
75	Confession session: Learning from others mistakes 2011 ,		1
74	Attentive motion sensor for mobile robotic applications 2011 ,		3
73	State-dependent sensory processing in networks of VLSI spiking neurons 2010 ,		9
72	Spike-based learning with a generalized integrate and fire silicon neuron 2010 ,		34
71	A model of stimulus-specific adaptation in neuromorphic a VLSI 2010 ,		1
70	Live demonstration: State-dependent sensory processing in networks of VLSI spiking neurons 2010 ,		1
69	Synthesis of log-domain integrators for silicon synapses with global parametric control 2010 ,		3
68	A device mismatch compensation method for VLSI neural networks 2010 ,		17
67	The CO3AUVs (Cooperative Cognitive Control for Autonomous Underwater Vehicles) Project: overview and current progresses.. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2010 , 43, 235-239		2
66	Selective attention in multi-chip address-event systems. <i>Sensors</i> , 2009 , 9, 5076-8098	3.8	28

65	Neuromorphic Systems 2009 , 521-528		4
64	Global scaling of synaptic efficacy: Homeostasis in silicon synapses. <i>Neurocomputing</i> , 2009 , 72, 726-731	5.4	24
63	Artificial Cognitive Systems: From VLSI Networks of Spiking Neurons to Neuromorphic Cognition. <i>Cognitive Computation</i> , 2009 , 1, 119-127	4.4	91
62	A current-mode conductance-based silicon neuron for address-event neuromorphic systems 2009 ,		58
61	A motion planning algorithm for smooth paths of bounded curvature and curvature derivative 2009 ,		5
60	Applying neuromorphic vision sensors to planetary landing tasks 2009 ,		5
59	Real-Time Classification of Complex Patterns Using Spike-Based Learning in Neuromorphic VLSI. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2009 , 3, 32-42	5.1	154
58	A VLSI network of spiking neurons with plastic fully configurable δ -top-learning synapses 2008 ,		16
57	A serial communication infrastructure for multi-chip address event systems 2008 ,		35
56	Implementing homeostatic plasticity in VLSI networks of spiking neurons 2008 ,		13
55	Neuromorphic VLSI Models of Selective Attention: From Single Chip Vision Sensors to Multi-chip Systems. <i>Sensors</i> , 2008 , 8, 5352-5375	3.8	21
54	Robust classification of correlated patterns with a neuromorphic VLSI network of spiking neurons 2007 ,		1
53	Synaptic dynamics in analog VLSI. <i>Neural Computation</i> , 2007 , 19, 2581-603	2.9	215
52	A Neuromorphic aVLSI network chip with configurable plastic synapses 2007 ,		6
51	A Multichip Pulse-Based Neuromorphic Infrastructure and Its Application to a Model of Orientation Selectivity. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , 2007 , 54, 981-993		86
50	Spike-based learning in VLSI networks of integrate-and-fire neurons 2007 ,		16
49	Reliable Computation in Noisy Backgrounds Using Real-Time Neuromorphic Hardware 2007 ,		3
48	Selective attention implemented with dynamic synapses and integrate-and-fire neurons. <i>Neurocomputing</i> , 2006 , 69, 1971-1976	5.4	10

47	An ultra low power current-mode filter for neuromorphic systems and biomedical signal processing 2006 ,		28
46	A VLSI array of low-power spiking neurons and bistable synapses with spike-timing dependent plasticity. <i>IEEE Transactions on Neural Networks</i> , 2006 , 17, 211-21		633
45	New technologies for testing a model of cricket phonotaxis on an outdoor robot. <i>Robotics and Autonomous Systems</i> , 2005 , 51, 41-54	3.5	37
44	Neuromorphic Selective Attention Systems 2005 , 633-637		
43	Object Tracking Using Multiple Neuromorphic Vision Sensors. <i>Lecture Notes in Computer Science</i> , 2005 , 426-433	0.9	3
42	Characterizing the Firing Properties of an Adaptive Analog VLSI Neuron. <i>Lecture Notes in Computer Science</i> , 2004 , 189-200	0.9	4
41	A software/hardware selective attention system. <i>Neurocomputing</i> , 2004 , 58-60, 647-653	5.4	15
40	Robot Soccer using Optical Analog VLSI Sensors. <i>International Journal of Robotics and Automation</i> , 2004 , 19,	1.3	3
39	Neuromorphic Engineering 2004 , 67-84		3
38	Guest editorial - Special issue on neural networks hardware implementations. <i>IEEE Transactions on Neural Networks</i> , 2003 , 14, 976-979		14
37	Analog VLSI 2002 ,		137
36	Computation in Neuromorphic Analog VLSI Systems. <i>Perspectives in Neural Computing</i> , 2002 , 3-20		2
35	Orientation-selective aVLSI spiking neurons. <i>Neural Networks</i> , 2001 , 14, 629-43	9.1	81
34	A Current-Mode Hysteretic Winner-take-all Network, with Excitatory and Inhibitory Coupling. <i>Analog Integrated Circuits and Signal Processing</i> , 2001 , 28, 279-291	1.2	46
33	Active vision using an analog VLSI model of selective attention. <i>IEEE Transactions on Circuits and Systems Part 2: Express Briefs</i> , 2001 , 48, 492-500		24
32	A neuromorphic VLSI device for implementing 2-D selective attention systems. <i>IEEE Transactions on Neural Networks</i> , 2001 , 12, 1455-63		35
31	A 2D neuromorphic VLSI architecture for modeling selective attention 2000 ,		5
30	Modeling selective attention using a neuromorphic analog VLSI device. <i>Neural Computation</i> , 2000 , 12, 2857-80	2.9	52

29	Robotic vision. Neuromorphic vision sensors. <i>Science</i> , 2000 , 288, 1189-90	33.3	77
28	Neuromorphic analog VLSI sensor for visual tracking: circuits and application examples. <i>IEEE Transactions on Circuits and Systems Part 2: Express Briefs</i> , 1999 , 46, 1337-1347		52
27	Neuromorphic vision sensors and preprocessors in system applications 1998 , 3410, 134		9
26	Winner-Take-All Networks with Lateral Excitation 1998 , 367-377		2
25	Autonomous vehicle guidance using analog VLSI neuromorphic sensors. <i>Lecture Notes in Computer Science</i> , 1997 , 811-816	0.9	11
24	Winner-Take-All Networks with Lateral Excitation. <i>Analog Integrated Circuits and Signal Processing</i> , 1997 , 13, 185-193	1.2	10
23	Analog VLSI architectures for motion processing: from fundamental limits to system applications. <i>Proceedings of the IEEE</i> , 1996 , 84, 969-987	14.3	47
22	System implementations of analog VLSI velocity sensors. <i>IEEE Micro</i> , 1996 , 16, 40-49	1.8	15
21	Analog VLSI motion projects at Caltech 1996 ,		4
20	A recurrent neural architecture mimicking cortical preattentive vision systems. <i>Neurocomputing</i> , 1996 , 11, 155-170	5.4	3
19	A neuromorphic architecture for cortical multilayer integration of early visual tasks. <i>Machine Vision and Applications</i> , 1995 , 8, 305-314	2.8	1
18	A neuromorphic architecture for cortical multilayer integration of early visual tasks. <i>Machine Vision and Applications</i> , 1995 , 8, 305-314	2.8	2
17	A Multi-Layer Analog VLSI Architecture for Texture Analysis Isomorphic to Cortical Cells in Mammalian Visual System 1994 , 61-70		
16	Modeling orientation selectivity using a neuromorphic multi-chip system		6
15	A VLSI spike-driven dynamic synapse which learns only when necessary		16
14	A low-power dual-threshold comparator for neuromorphic systems		3
13	An adaptive silicon synapse		13
12	A low-power adaptive integrate-and-fire neuron circuit		91

11	An event-based VLSI network of integrate-and-fire neurons	18
10	Form specifies function: robust spike-based computation in analog VLSI without precise synaptic weights	2
9	An adaptive visual tracking sensor with a hysteretic winner-take-all network	10
8	A reconfigurable neuromorphic VLSI multi-chip system applied to visual motion computation	28
7	System implementations of analog VLSI velocity sensors	2
6		2
5	2022 roadmap on neuromorphic computing and engineering. <i>Neuromorphic Computing and Engineering,</i>	24
4	A neuromorphic controller for a robotic vehicle equipped with a dynamic vision sensor	15
3	A neuromorphic model of olfactory processing and sparse coding in the Drosophila larva brain. <i>Neuromorphic Computing and Engineering,</i>	1
2	An electronic neuromorphic system for real-time detection of High Frequency Oscillations (HFOs) in intracranial EEG	2
1	A neuromorphic model of olfactory processing and sparse coding in the Drosophila larva brain	1