Simon J Thorpe

List of Publications by Year
in descending order

118	15,296	36203	32761
papers	citations	51 h-index	100 g-index

126	126	126	8672
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Speed of processing in the human visual system. Nature, 1996, 381, 520-522.	13.7	3,093
2	The orbitofrontal cortex: Neuronal activity in the behaving monkey. Experimental Brain Research, 1983, 49, 93-115.	0.7	751
3	The Time Course of Visual Processing: From Early Perception to Decision-Making. Journal of Cognitive Neuroscience, 2001, 13, 454-461.	1.1	599
4	Spike-based strategies for rapid processing. Neural Networks, 2001, 14, 715-725.	3.3	535
5	Ultra-rapid object detection with saccadic eye movements: Visual processing speed revisited. Vision Research, 2006, 46, 1762-1776.	0.7	500
6	STDP-based spiking deep convolutional neural networks for object recognition. Neural Networks, 2018, 99, 56-67.	3.3	471
7	Unsupervised Learning of Visual Features through Spike Timing Dependent Plasticity. PLoS Computational Biology, 2007, 3, e31.	1.5	409
8	Rate Coding Versus Temporal Order Coding: What the Retinal Ganglion Cells Tell the Visual Cortex. Neural Computation, 2001, 13, 1255-1283.	1.3	378
9	Spike times make sense. Trends in Neurosciences, 2005, 28, 1-4.	4.2	376
10	Parallel processing in high-level categorization of natural images. Nature Neuroscience, 2002, 5, 629-630.	7.1	335
11	Fast saccades toward faces: Face detection in just 100 ms. Journal of Vision, 2010, 10, 1-17.	0.1	334
12	A Limit to the Speed of Processing in Ultra-Rapid Visual Categorization of Novel Natural Scenes. Journal of Cognitive Neuroscience, 2001, 13, 171-180.	1.1	305
13	A cellular analogue of visual cortical plasticity. Nature, 1988, 333, 367-370.	13.7	300
14	Is it a Bird? Is it a Plane? Ultra-Rapid Visual Categorisation of Natural and Artifactual Objects. Perception, 2001, 30, 655-668.	0.5	298
15	Responses of striatal neurons in the behaving monkey. 1. Head of the caudate nucleus. Behavioural Brain Research, 1983, 7, 179-210.	1.2	271
16	NEUROSCIENCE: Seeking Categories in the Brain. Science, 2001, 291, 260-263.	6.0	250
17	Competitive STDP-Based Spike Pattern Learning. Neural Computation, 2009, 21, 1259-1276.	1.3	248
18	Dynamics of orientation coding in area V1 of the awake primate. Visual Neuroscience, 1993, 10, 811-825.	0.5	247

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19	Spike Timing Dependent Plasticity Finds the Start of Repeating Patterns in Continuous Spike Trains. PLoS ONE, 2008, 3, e1377.	1.1	224
20	Surfing a spike wave down the ventral stream. Vision Research, 2002, 42, 2593-2615.	0.7	218
21	2022 roadmap on neuromorphic computing and engineering. Neuromorphic Computing and Engineering, 2022, 2, 022501.	2.8	217
22	The time course of visual processing: Backward masking and natural scene categorisation. Vision Research, 2005, 45, 1459-1469.	0.7	189
23	Sensory-specific satiety: Food-specific reduction in responsiveness of ventral forebrain neurons after feeding in the monkey. Brain Research, 1986, 368, 79-86.	1.1	186
24	Rate coding versus temporal order coding: a theoretical approach. BioSystems, 1998, 48, 57-65.	0.9	184
25	Rapid categorization of natural images by rhesus monkeys. NeuroReport, 1998, 9, 303-308.	0.6	182
26	Rapid Formation of Robust Auditory Memories: Insights from Noise. Neuron, 2010, 66, 610-618.	3.8	177
27	Detection of animals in natural images using far peripheral vision. European Journal of Neuroscience, 2001, 14, 869-876.	1.2	171
28	Rank Order Coding. , 1998, , 113-118.		169
29	How parallel is visual processing in the ventral pathway?. Trends in Cognitive Sciences, 2004, 8, 363-370.	4.0	162
30	Responses of striatal neurons in the behaving monkey. 3. Effects of iontophoretically applied dopamine on normal responsiveness. Neuroscience, 1984, 12, 1201-1212.	1.1	161
31	Modulation of neural stereoscopic processing in primate area V1 by the viewing distance. Science, 1992, 257, 1279-1281.	6.0	161
32	Oscillations, Phase-of-Firing Coding, and Spike Timing-Dependent Plasticity: An Efficient Learning Scheme. Journal of Neuroscience, 2009, 29, 13484-13493.	1.7	153
33	Face identification using one spike per neuron: resistance to image degradations. Neural Networks, 2001, 14, 795-803.	3.3	136
34	Extraction of temporally correlated features from dynamic vision sensors with spike-timing-dependent plasticity. Neural Networks, 2012, 32, 339-348.	3.3	132
35	SpikeNET: A simulator for modeling large networks of integrate and fire neurons. Neurocomputing, 1999, 26-27, 989-996.	3.5	120
36	Investigating implicit statistical learning mechanisms through contextual cueing. Trends in Cognitive Sciences, 2015, 19, 524-533.	4.0	118

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37	NAVIG: augmented reality guidance system for the visually impaired. Virtual Reality, 2012, 16, 253-269.	4.1	115
38	Face processing using one spike per neurone. BioSystems, 1998, 48, 229-239.	0.9	113
39	Neurons Tune to the Earliest Spikes Through STDP. Neural Computation, 2005, 17, 859-879.	1.3	109
40	Cellular analogs of visual cortical epigenesis. I. Plasticity of orientation selectivity. Journal of Neuroscience, 1992, 12, 1280-1300.	1.7	103
41	Bio-inspired digit recognition using reward-modulated spike-timing-dependent plasticity in deep convolutional networks. Pattern Recognition, 2019, 94, 87-95.	5.1	99
42	Ultra-Rapid Sensory Responses in the Human Frontal Eye Field Region. Journal of Neuroscience, 2009, 29, 7599-7606.	1.7	89
43	Networks of integrate-and-fire neurons using Rank Order Coding B: Spike timing dependent plasticity and emergence of orientation selectivity. Neurocomputing, 2001, 38-40, 539-545.	3.5	86
44	Neural processing of stereopsis as a function of viewing distance in primate visual cortical area V1. Journal of Neurophysiology, 1996, 76, 2872-2885.	0.9	84
45	Processing of one, two or four natural scenes in humans: the limits of parallelism. Vision Research, 2004, 44, 877-894.	0.7	80
46	Responses of neurons in area 7 of the parietal cortex to objects of different significance. Brain Research, 1979, 169, 194-198.	1.1	75
47	Low-level cues and ultra-fast face detection. Frontiers in Psychology, 2011, 2, 342.	1.1	74
48	Rapid categorization of achromatic natural scenes: how robust at very low contrasts?. European Journal of Neuroscience, 2005, 21, 2007-2018.	1.2	70
49	SpikeNET: an event-driven simulation package for modelling large networks of spiking neurons. , 0, .		66
50	Unsupervised Feature Learning With Winner-Takes-All Based STDP. Frontiers in Computational Neuroscience, 2018, 12, 24.	1.2	60
51	Fast recognition of musical sounds based on timbre. Journal of the Acoustical Society of America, 2012, 131, 4124-4133.	0.5	59
52	SpikeNET: an event-driven simulation package for modelling large networks of spiking neurons. Network: Computation in Neural Systems, 2003, 14, 613-627.	2.2	55
53	Navigation and space perception assistance for the visually impaired: The NAVIG project. Irbm, 2012, 33, 182-189.	3.7	55
54	Temporal codes and sparse representations: A key to understanding rapid processing in the visual system. Journal of Physiology (Paris), 2004, 98, 487-497.	2.1	50

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55	Finding faces, animals, and vehicles in far peripheral vision. Journal of Vision, 2016, 16, 10.	0.1	50
56	Coding Static Natural Images Using Spiking Event Times: Do Neurons Cooperate?. IEEE Transactions on Neural Networks, 2004, 15, 1164-1175.	4.8	49
57	From face processing to face recognition: Comparing three different processing levels. Cognition, 2017, 158, 33-43.	1.1	46
58	At 120 msec You Can Spot the Animal but You Don't Yet Know It's a Dog. Journal of Cognitive Neuroscience, 2015, 27, 141-149.	1.1	45
59	SpikeNet: real-time visual processing with one spike per neuron. Neurocomputing, 2004, 58-60, 857-864.	3.5	44
60	Auditory gist: Recognition of very short sounds from timbre cues. Journal of the Acoustical Society of America, 2014, 135, 1380-1391.	0.5	44
61	Brain Areas Involved in Rapid Categorization of Natural Images: An Event-Related fMRI Study. NeuroImage, 2000, 11, 634-643.	2.1	43
62	Animal Detection Precedes Access to Scene Category. PLoS ONE, 2012, 7, e51471.	1.1	43
63	Feed-forward contour integration in primary visual cortex based on asynchronous spike propagation. Neurocomputing, 2001, 38-40, 1003-1009.	3.5	40
64	Limits of Event-related Potential Differences in Tracking Object Processing Speed. Journal of Cognitive Neuroscience, 2007, 19, 1241-1258.	1.1	40
65	Effects of task requirements on rapid natural scene processing: From common sensory encoding to distinct decisional mechanisms.. Journal of Experimental Psychology: Human Perception and Performance, 2007, 33, 1013-1026.	0.7	37
66	The Speed of Categorization in the Human Visual System. Neuron, 2009, 62, 168-170.	3.8	37
67	Sparse spike coding in an asynchronous feed-forward multi-layer neural network using matching pursuit. Neurocomputing, 2004, 57, 125-134.	3.5	32
68	Learning to recognize objects using waves of spikes and Spike Timing-Dependent Plasticity. , 2010, , .		31
69	Ultra-Rapid Scene Categorization with a Wave of Spikes. Lecture Notes in Computer Science, 2002, , 1-15.	1.0	31
70	Rapid categorization of foveal and extrafoveal natural images: Associated ERPs and effects of lateralization. Brain and Cognition, 2005, 59, 145-158.	0.8	29
71	NAVIG: Guidance system for the visually impaired using virtual augmented reality. Technology and Disability, 2012, 24, 163-178.	0.3	29
72	Animals roll around the clock: The rotation invariance of ultrarapid visual processing. Journal of Vision, 2006, 6, 1.	0.1	28

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73	Unsupervised features extraction from asynchronous silicon retina through Spike-Timing-Dependent Plasticity. , 2011, , .		24
74	Networks of integrate-and-fire neuron using rank order coding A: How to implement spike time dependent Hebbian plasticity. Neurocomputing, 2001, 38-40, 817-822.	3.5	22
75	Taking the MAX from neuronal responses. Trends in Cognitive Sciences, 2003, 7, 99-102.	4.0	21
76	Characteristics of human voice processing. , 2010, , .		21
77	Designing an assistive device for the blind based on object localization and augmented auditory reality. , 2008, , .		20
78	Long Term Memory for Noise: Evidence of Robust Encoding of Very Short Temporal Acoustic Patterns. Frontiers in Neuroscience, 2016, 10, 490.	1.4	19
79	Zapping 500 faces in less than 100â€‰seconds: Evidence for extremely fast and sustained continuous visual search. Scientific Reports, 2018, 8, 12482.	1.6	18
80	SpikeNET: an event-driven simulation package for modelling large networks of spiking neurons. Network: Computation in Neural Systems, 2003, 14, 613-27.	2.2	17
81	Neuronal spiking activity highlights a gradient of epileptogenicity in human tuberous sclerosis lesions. Clinical Neurophysiology, 2019, 130, 537-547.	0.7	16
82	Word processing speed in peripheral vision measured with a saccadic choice task. Vision Research, 2012, 56, 10-19.	0.7	15
83	Memory for Repeated Images in Rapid-Serial-Visual-Presentation Streams of Thousands of Images. Psychological Science, 2019, 30, 989-1000.	1.8	15
84	Recording local field potential and neuronal activity with tetrodes in epileptic patients. Journal of Neuroscience Methods, 2020, 341, 108759.	1.3	15
85	Connectionist Models of Orientation Identification. Connection Science, 1991, 3, 127-142.	1.8	14
86	ARTIFICIAL VISION FOR THE BLIND: A BIO-INSPIRED ALGORITHM FOR OBJECTS AND OBSTACLES DETECTION. International Journal of Image and Graphics, 2010, 10, 531-544.	1.2	14
87	The Effects of Spatial Frequency on Binocular Fusion: From Elementary to Complex Images. Human Factors, 1997, 39, 359-373.	2.1	13
88	Reverse engineering of the visual system using networks of spiking neurons. , 0, , .		13
89	Extremely long-term memory and familiarity after 12â€¯years. Cognition, 2018, 170, 254-262.	1.1	13
90	Spatial attention in asynchronous neural networks. Neurocomputing, 1999, 26-27, 911-918.	3.5	11

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91	Barlow's 1972 Paper. Perception, 2009, 38, 795-807.	0.5	10
92	Spike-Based Image Processing: Can We Reproduce Biological Vision in Hardware?. Lecture Notes in Computer Science, 2012, , 516-521.	1.0	10
93	Design study of efficient digital order-based STDP neuron implementations for extracting temporal features. , 2013, , .		8
94	Concept Cells through Associative Learning of High-Level Representations. Neuron, 2014, 84, 248-251.	3.8	8
95	Object categorization in visual periphery is modulated by delayed foveal noise. Journal of Vision, 2019, 19, 1.	0.1	7
96	Implementing hebbian learning in a rank-based neural network. Lecture Notes in Computer Science, 1997, , 145-150.	1.0	6
97	Neural processing of stereopsis as a function of viewing distance. , 1993, , 474-484.		5
98	Suggestions for a biologically inspired spiking retina using order-based coding. , 2010, , .		4
99	Processing of Short Auditory Stimuli: The Rapid Audio Sequential Presentation Paradigm (RASP). Advances in Experimental Medicine and Biology, 2013, 787, 443-451.	0.8	4
100	The influence of motivation on the responses of neurons in the posterior parietal association cortex. Behavioral and Brain Sciences, 1980, 3, 514-515.	0.4	3
101	High Resolution Human Eye Tracking During Continuous Visual Search. Frontiers in Human Neuroscience, 2018, 12, 374.	1.0	3
102	Tracking Your Mind's Eye during Recollection: Decoding the Long-Term Recall of Short Audiovisual Clips. Journal of Cognitive Neuroscience, 2020, 32, 50-64.	1.1	3
103	Rapid Categorization of Extrafoveal Natural Images: Implications for Biological Models. , 1998, , 7-12.		3
104	Visual processing beyond the inferior temporal visual cortex. Behavioural Brain Research, 1982, 5, 114-115.	1.2	2
105	Temporal synchrony and the speed of visual processing. Behavioral and Brain Sciences, 1993, 16, 473-474.	0.4	2
106	Waking Up Buried Memories of Old TV Programs. Frontiers in Behavioral Neuroscience, 2017, 11, 60.	1.0	2
107	24-Month-olds and over remember novel object names after a single learning event. Journal of Experimental Child Psychology, 2020, 196, 104859.	0.7	2
108	Regularity is not a key factor for encoding repetition in rapid image streams. Scientific Reports, 2019, 9, 6872.	1.6	1

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109	Stimulus Onset Hub: an Open-Source, Low Latency, and Opto-Isolated Trigger Box for Neuroscientific Research Replicability and Beyond. Frontiers in Neuroinformatics, 2020, 14, 2.	1.3	1
110	Covert object recognition at large visual eccentricity. Journal of Vision, 2010, 1, 471-471.	0.1	1
111	Unsupervised learning of repeating patterns using a novel STDP based algorithm. Journal of Vision, 2017, 17, 1079.	0.1	1
112	PATTERN RECOGNITION IN THE VISUAL SYSTEM AND THE NATURE OF NEURAL CODING. , 2000, , 382-391.		0
113	The Implicit Learning of Noise: Behavioral Data and Computational Models. , 2010, , 571-579.		0
114	Making Sense of Scenes with Spike-Based Processing. , 2014, , 199-224.		0
115	Waking up buried memories. Journal of Vision, 2015, 15, 93.	0.1	0
116	A hippocampal temporal gating mechanism for episodic visual memories. Journal of Vision, 2015, 15, 89.	0.1	0
117	Creating shortcuts in the visual hierarchy: improving saccadic reaction time and accuracy with RSVP training. Journal of Vision, 2015, 15, 1111.	0.1	0
118	Microsaccades during high speed continuous visual search. Journal of Eye Movement Research, 2020, 13, .	0.5	0