Ralph Etienne-Cummings

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/9310249/publications.pdf

Version: 2024-02-01

99	1,349	516710 16	454955 30
papers	citations	h-index	g-index

108	108	108	1402
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Large-Scale Neuromorphic Spiking Array Processors: A Quest to Mimic the Brain. Frontiers in Neuroscience, 2018, 12, 891.	2.8	177
2	The Microbead: A 0.009 mm³ Implantable Wireless Neural Stimulator. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 971-985.	4.0	87
3	A model of proto-object based saliency. Vision Research, 2014, 94, 1-15.	1.4	84
4	CMOS Camera With In-Pixel Temporal Change Detection and ADC. IEEE Journal of Solid-State Circuits, 2007, 42, 2187-2196.	5.4	68
5	A Silicon Central Pattern Generator Controls Locomotion in Vivo. IEEE Transactions on Biomedical Circuits and Systems, 2008, 2, 212-222.	4.0	58
6	The Microbead: A Highly Miniaturized Wirelessly Powered Implantable Neural Stimulating System. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 521-531.	4.0	52
7	Linear Current-Mode Active Pixel Sensor. IEEE Journal of Solid-State Circuits, 2007, 42, 2482-2491.	5.4	40
8	A switched capacitor implementation of the generalized linear integrate-and-fire neuron. , 2009, , .		38
9	A spiking neural network architecture for visual motion estimation. , 2013, , .		36
10	A Pipelined Temporal Difference Imager. IEEE Journal of Solid-State Circuits, 2004, 39, 538-543.	5.4	33
11	Current Mode Image Sensor With Two Transistors per Pixel. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 1154-1165.	5.4	31
12	Bioinspired Visual Motion Estimation. Proceedings of the IEEE, 2014, 102, 1520-1536.	21.3	28
13	A CMOS switched capacitor implementation of the Mihalas-Niebur neuron. , 2009, , .		26
14	A syndromic surveillance tool to detect anomalous clusters of COVID-19 symptoms in the United States. Scientific Reports, 2021, 11, 4660.	3.3	26
15	Fast Neuromimetic Object Recognition Using FPGA Outperforms GPU Implementations. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1239-1252.	11.3	25
16	Deep Learning-Based Target Tracking and Classification for Low Quality Videos Using Coded Aperture Cameras. Sensors, 2019, 19, 3702.	3.8	25
17	Configuring of Spiking Central Pattern Generator Networks for Bipedal Walking Using Genetic Algorthms. , 2007, , .		23
18	Real-Time and Deep Learning Based Vehicle Detection and Classification Using Pixel-Wise Code Exposure Measurements. Electronics (Switzerland), 2020, 9, 1014.	3.1	23

#	Article	IF	Citations
19	Active Ultrasound Pattern Injection System (AUSPIS) for Interventional Tool Guidance. PLoS ONE, 2014, 9, e104262.	2.5	22
20	Practical considerations for the use of a Howland current source for neuro-stimulation. , 2008, , .		18
21	Closed-loop bioelectronic medicine for diabetes management. Bioelectronic Medicine, 2020, 6, 11.	2.3	18
22	A compact, low-power, fully analog implantable microstimulator. , 2016, , .		17
23	A dual pixel-type array for imaging and motion centroid localization. IEEE Sensors Journal, 2002, 2, 529-548.	4.7	16
24	Towards a Cortical Prosthesis: Implementing A Spike-Based HMAX Model of Visual Object Recognition in Silico. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2011, 1, 516-525.	3.6	16
25	Low-power, low-mismatch, highly-dense array of VLSI Mihalas-Niebur neurons. , 2017, , .		15
26	Detection and Confirmation of Multiple Human Targets Using Pixel-Wise Code Aperture Measurements. Journal of Imaging, 2020, 6, 40.	3.0	15
27	Optical Flow Approximation of Sub-Pixel Accurate Block Matching for Video Coding. , 2007, , .		13
28	Communication Channel Analysis and Real Time Compressed Sensing for High Density Neural Recording Devices. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 599-608.	5.4	13
29	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
30	Incremental Encoder Based Position and Velocity Measurements VLSI Chip with Serial Peripheral Interface. , 2007, , .		12
31	Real Time Compressive Sensing Video Reconstruction in Hardware. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 604-615.	3.6	12
32	Single-Chip Stereo Imager. Analog Integrated Circuits and Signal Processing, 2004, 39, 237-250.	1.4	11
33	A dictionary learning algorithm for multi-channel neural recordings. , 2014, , .		11
34	Analysis and Design Methodology of RF Energy Harvesting Rectifier Circuit for Ultra-Low Power Applications. IEEE Open Journal of Circuits and Systems, 2022, 3, 82-96.	1.9	11
35	Coil array design for maximizing wireless power transfer to sub-mm sized implantable devices. , 2017, , .		10
36	A Model-Based Systems Engineering Approach to Trade Space Exploration of Implanted Wireless Biotelemetry Communication Systems. IEEE Systems Journal, 2019, 13, 1669-1677.	4.6	10

#	Article	IF	Citations
37	A Closed-Loop, All-Electronic Pixel-Wise Adaptive Imaging System for High Dynamic Range Videography. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 1803-1814.	5.4	10
38	Neuromorphic Vision Systems for Mobile Applications. , 2006, , .		9
39	Real-time silicon implementation of V1 in hierarchical visual information processing. , 2008, , .		9
40	An unsupervised dictionary learning algorithm for neural recordings. , 2015, , .		9
41	Novel integration and packaging concepts of highly miniaturized inductively powered neural implants. , 2017, 2017, 234-237.		9
42	The feeling of color: A haptic feedback device for the visually disabled. , 2008, , .		8
43	Energy-efficient two-stage Compressed Sensing method for implantable neural recordings. , 2013, , .		8
44	Biologically Inspired Visual Motion Detection in VLSI. International Journal of Computer Vision, 2001, 44, 175-198.	15.6	7
45	Proto-Object Based Saliency Model With Texture Detection Channel. Frontiers in Computational Neuroscience, 2020, 14, 541581.	2.1	7
46	A Neuromorphic Proto-Object Based Dynamic Visual Saliency Model With a Hybrid FPGA Implementation. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 580-594.	4.0	7
47	Intelligent Robot Vision Sensors in VLSI. Autonomous Robots, 1999, 7, 225-237.	4.8	6
48	A robust multi-application automatic gain control chip. Midwest Symposium on Circuits and Systems, 2007, , .	1.0	6
49	Reconstruction of neural action potentials using signal dependent sparse representations. , 2013, , .		6
50	FPGA emulation of a spike-based, stochastic system for real-time image dewarping. , 2015, , .		6
51	Bio-inspired system architecture for energy efficient, BIGDATA computing with application to wide area motion imagery. , 2016, , .		6
52	Magnetoelectric Versus Inductive Power Delivery for Sub-mm Receivers. , 2021, , .		6
53	Adaptive hysteretic comparator with opamp threshold level setting. , 2008, , .		5
54	A color detection glove with haptic feedback for the visually disabled. , 2009, , .		5

#	Article	IF	Citations
55	Real-time motion estimation using spatiotemporal filtering in FPGA. , 2013, , .		5
56	Video Sensor Node for Low-Power Ad-hoc Wireless Networks. , 2007, , .		4
57	Implementing a neuromorphic cross-correlation engine with silicon neurons. , 2008, , .		4
58	CMOS implementation of pixel-wise coded exposure imaging for insect-based sensor node. , 2015, , .		4
59	Computational stereo-vision model of proto-object based saliency in three-dimensional space. , 2018, , .		4
60	The Challenges of Designing an Inductively Coupled Power Link for Î¼m-sized On-Chip Coils. , 2018, , .		4
61	Decoding accelerometry for classification and prediction of critically ill patients with severe brain injury. Scientific Reports, 2021, 11, 23654.	3.3	4
62	Sensor-based Dynamic Control of the Central Pattern Generator for Locomotion. , 2007, , .		3
63	A spike based 3D imager chip using a mixed mode encoding readout. , 2010, , .		3
64	Discriminating Multiple Nearby Targets Using Single-Ping Ultrasonic Scene Mapping. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 2915-2924.	5.4	3
65	Live demonstration: Real-time implementation of a proto-object-based dynamic visual saliency model. , 2015, , .		3
66	Active phantoms: a paradigm for ultrasound calibration using phantom feedback. Journal of Medical Imaging, 2017, 4, 035001.	1.5	3
67	Proto-Object Based Saliency Model with Second-Order Texture Feature. , 2018, , .		3
68	High Performance Biomorphic Image Processing Under Tight Space and Power Constraints. Autonomous Robots, 2001, 11, 227-232.	4.8	2
69	Biomorphic circuits and systems: Control of robotic and prosthetic limbs. , 2008, , .		2
70	A size and position invariant event-based human posture recognition algorithm. , 2008, , .		2
71	Image sensor with focal plane change event driven video compression. , 2008, , .		2
72	A 5-bits precision CMOS bandgap reference with on-chip bi-directional resistance trimming. , 2008, , .		2

#	Article	IF	Citations
73	Implementation of functional components of the Locomotion Processing Unit. , 2011, , .		2
74	Maximum likelihood parameter estimation of a spiking silicon neuron. , 2011, , .		2
75	An entropy based ideal observer model for visual saliency. , 2012, , .		2
76	Bioinspired Imaging: Discovery, Emulation, and Future Prospects [Scanning the Issue]. Proceedings of the IEEE, 2014, 102, 1404-1410.	21.3	2
77	Inference in spiking Bayesian neurons using stochastic computation. , 2017, , .		2
78	A model based approach for realizing a safe wireless biotelemetry system. , 2017, , .		2
79	Live demonstration: A compact all-CMOS spatiotemporal compressed sensing video camera. , 2017, , .		2
80	Design and Optimization of a Capacitive Micromachined Ultrasonic Transducer Micro-Array for Near Field Sensing. , 2007, , .		1
81	Correction to "Asynchronous Decoding of Dexterous Finger Movements Using M1 Neurons" [Feb 08 3-14]. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2008, 16, 421-421.	4.9	1
82	Low-voltage high CMRR OTA for electrophysiological measurements. , 2009, , .		1
83	Compressed sensing block-wise exposure control algorithm using optical flow estimation. , 2015, , .		1
84	Stochastic image processing and simultaneous dewarping for aerial vehicles. , 2016, , .		1
85	Automated Tracking System for Identification of Tagged Mice for Automatic Social Behavior Analysis. , 2018, , .		1
86	Using Deep Learning to Extract Scenery Information in Real Time Spatiotemporal Compressed Sensing. , 2018, , .		1
87	A Compact Free-Floating Device for Passive Charge-Balanced Neural Stimulation using PEDOT/CNT microelectrodes. , 2020, 2020, 3375-3378.		1
88	Finite element modeling of tissue for optimal ultrasonic transducer array design. , 2008, , .		0
89	Simulation of a single ping ultrasonic bearing estimation design using spatiotemporal filtering. , 2009, , .		0
90	A novel 3D display using multi-hyperstereo image stitching. , 2011, , .		0

#	Article	IF	Citations
91	Perceptual organization, attention and object recognition: Closing the loop. , 2012, , .		0
92	Live demonstration: A tactile perception system for sensing the visual world. , 2012, , .		0
93	A 5 Î¼W/channel 9b-ENOB BioADC array for electrocortical recording. , 2015, , .		0
94	Live demonstration: Event-based image processing on CMOS Mihalas-Niebur neuron array transceiver. , 2017, , .		0
95	Iontophoresis instrumentation for the enhancement of gene therapy in wound healing. , 2017, , .		0
96	Live demonstration: A wirelessly powered highly miniaturized neural stimulator. , 2017, , .		0
97	Live demonstration: Real-time, dynamic visual saliency computation in a VR environment seeing through the eyes of a mobile robot. , 2017, , .		0
98	Live demonstration: FPGA neural array emulation for real-time, event-based simultaneous dewarping and filtering for aerial vehicles. , 2017, , .		0
99	Design of an Ultrasonic Micro-Array for Near Field Sensing during Retinal Microsurgery. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0