

Piotr Dudek

List of Publications by Year in descending order

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Version: 2024-02-01

60
papers

908
citations

933410

10
h-index

1199563

12
g-index

60
all docs

60
docs citations

60
times ranked

807
citing authors

#	ARTICLE	IF	CITATIONS
1	Compact silicon neuron circuit with spiking and bursting behaviour. <i>Neural Networks</i> , 2008, 21, 524-534.	5.9	272
2	A Fast Self-Tuning Background Subtraction Algorithm. , 2014, , .		71
3	A SIMD Cellular Processor Array Vision Chip With Asynchronous Processing Capabilities. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2011, 58, 2420-2431.	5.4	63
4	VLSI circuits implementing computational models of neocortical circuits. <i>Journal of Neuroscience Methods</i> , 2012, 210, 93-109.	2.5	29
5	Integrated circuit implementation of a cortical neuron. , 2008, , .		24
6	Gradient-descent-based learning in memristive crossbar arrays. , 2015, , .		22
7	Tracking control of a UAV with a parallel visual processor. , 2017, , .		21
8	Tunable CMOS Delay Gate With Improved Matching Properties. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2014, 61, 2586-2595.	5.4	20
9	Visual Odometry for Pixel Processor Arrays. , 2017, , .		19
10	A CMOS circuit implementation of a spiking neuron with bursting and adaptation on a biological timescale. , 2009, , .		18
11	Mixed signal SIMD processor array vision chip for real-time image processing. <i>Analog Integrated Circuits and Signal Processing</i> , 2013, 77, 385-399.	1.4	18
12	Asynchronous cellular logic network as a coâ€­processor for a generalâ€­purpose massively parallel array. <i>International Journal of Circuit Theory and Applications</i> , 2011, 39, 963-972.	2.0	17
13	Simple Analogue VLSI Circuit of a Cortical Neuron. , 2006, , .		16
14	Sensor-level computer vision with pixel processor arrays for agile robots. <i>Science Robotics</i> , 2022, 7, .	17.6	15
15	ASPA: Focal Plane digital processor array with asynchronous processing capabilities. , 2008, , .		14
16	Real-Time Depth From Focus on a Programmable Focal Plane Processor. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2018, 65, 925-934.	5.4	14
17	A Cellular Active Contours Algorithm Based on Region Evolution. , 2006, , .		13
18	Parallel HDR tone mapping and auto-focus on a cellular processor array vision chip. , 2016, , .		13

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19	Visual Odometry Using Pixel Processor Arrays for Unmanned Aerial Systems in GPS Denied Environments. <i>Frontiers in Robotics and AI</i> , 2020, 7, 126.	3.2	13
20	A pixel-parallel cellular processor array in a stacked three-layer 3D silicon-on-insulator technology. , 2009, , .		12
21	High-speed depth from focus on a programmable vision chip using a focus tunable lens. , 2017, , .		12
22	Hardware Implementation of Skeletonization Algorithm for Parallel Asynchronous Image Processing. <i>Journal of Signal Processing Systems</i> , 2009, 56, 91-103.	2.1	11
23	A general-purpose vision processor with 160×80 pixel-parallel SIMD processor array. , 2013, , .		11
24	AMBER: Adapting multi-resolution background extractor. , 2013, , .		11
25	Global operations in SIMD cellular processor arrays employing functional asynchronism. , 2006, , .		10
26	Evolution of Pixel Level Snakes towards an efficient hardware implementation. , 2007, , .		10
27	Perspective Correcting Visual Odometry for Agile MAVs using a Pixel Processor Array. , 2018, , .		10
28	An 80×80 general-purpose digital vision chip in 0.18μm CMOS technology. , 2010, , .		9
29	Trigger-wave collision detecting asynchronous cellular logic array for fast image skeletonization. , 2012, , .		8
30	The accuracy and scalability of continuous-time Bayesian inference in analogue CMOS circuits. , 2014, , .		8
31	Toward joint approximate inference of visual quantities on cellular processor arrays. , 2015, , .		8
32	Proximity Estimation Using Vision Features Computed On Sensor. , 2020, , .		7
33	Agile reactive navigation for a nonéholonomic mobile robot using a pixel processor array. <i>IET Image Processing</i> , 2021, 15, 1883-1892.	2.5	7
34	Approximating Euclidean distance transform with simple operations in cellular processor arrays. , 2010, , .		6
35	Autonomous long distance transfer on SIMD cellular processor arrays. , 2010, , .		6
36	A processor element for a mixed signal cellular processor array vision chip. , 2011, , .		6

#	ARTICLE	IF	CITATIONS
37	A compact FPGA implementation of a bit-serial SIMD cellular processor array. , 2012, , .		6
38	A new method for fast skeletonization of binary images on cellular processor arrays. , 2014, , .		6
39	Coarse grain mapping method for image processing on fine grain cellular processor arrays. , 2012, , .		5
40	A Smart Surface Simulation Environment. , 2013, , .		5
41	Demonstration of real-time image processing on the SCAMP-3 vision system. , 2006, , .		4
42	Mixed signal SIMD cellular processor array vision chip operating at 30,000 fps. , 2012, , .		4
43	A Demonstration of Tracking using Dynamic Neural Fields on a Programmable Vision Chip. , 2016, , .		4
44	Adaptive sensing and image processing with a general-purpose pixel-parallel sensor/processor array integrated circuit. , 2006, , .		3
45	Implementing the grayscale wave metric on a cellular array processor chip. , 2008, , .		3
46	Architecture and design of a programmable 3D-integrated cellular processor array for image processing. , 2011, , .		3
47	Low power multiple object tracking and counting using a SCAMP cellular processor array. , 2012, , .		3
48	Trigger-Wave Asynchronous Cellular Logic Array for Fast Binary Image Processing. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 497-506.	5.4	3
49	Self-Organizing Neural Population Coding for improving robotic visuomotor coordination. , 2011, , .		2
50	Analogue CMOS circuit implementation of a dopamine modulated synapse. , 2011, , .		2
51	Development of robot self-identification based on visuomotor prediction. , 2012, , .		2
52	Characterization of processing errors on analog fully-programmable cellular sensor-processor arrays. , 2014, , .		2
53	Focal-plane moving object segmentation for realtime video surveillance. , 2008, , .		1
54	Live demonstration: Real-time image processing on ASPA2 vision system. , 2011, , .		1

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55	Heterogeneous neurons and plastic synapses in a reconfigurable cortical neural network IC. , 2012, , .		1
56	Object sorting using a distributed manipulator array. , 2014, , .		1
57	An event-driven massively parallel fine-grained processor array. , 2015, , .		1
58	Practical gradient-descent for memristive crossbars. , 2015, , .		1
59	Live Demonstration: Digit Recognition on Pixel Processor Arrays. , 2019, , .		1
60	Testing Pixel Level Snakes. , 2006, , .		0