Georgios Sirakoulis

List of Publications by Year
in descending order

156 papers	3,188 citations	159573 30 h-index	197805 49 g-index
161 all docs	161 docs citations	161 times ranked	2242 citing authors

#	Article	IF	Citations
1	Review of Stereo Vision Algorithms: From Software to Hardware. International Journal of Optomechatronics, 2008, 2, 435-462.	6.6	303
2	A cellular automaton model for the effects of population movement and vaccination on epidemic propagation. Ecological Modelling, 2000, 133, 209-223.	2.5	196
3	Emerging Memristor-Based Logic Circuit Design Approaches: A Review. IEEE Circuits and Systems Magazine, 2016, 16, 15-30.	2.3	157
4	A Novel Design and Modeling Paradigm for Memristor-Based Crossbar Circuits. IEEE Nanotechnology Magazine, 2012, 11, 1151-1159.	2.0	103
5	SPICE modeling of nonlinear memristive behavior. International Journal of Circuit Theory and Applications, 2015, 43, 553-565.	2.0	83
6	Robot Guided Crowd Evacuation. IEEE Transactions on Automation Science and Engineering, 2015, 12, 739-751.	5.2	64
7	Boolean Logic Operations and Computing Circuits Based on Memristors. IEEE Transactions on Circuits and Systems II: Express Briefs, 2014, 61, 972-976.	3.0	63
8	An FPGA implemented cellular automaton crowd evacuation model inspired by the electrostatic-induced potential fields. Microprocessors and Microsystems, 2010, 34, 285-300.	2.8	59
9	Crossbar-Based Memristive Logic-in-Memory Architecture. IEEE Nanotechnology Magazine, 2017, 16, 491-501.	2.0	57
10	A CAD system for the construction and VLSI implementation of Cellular Automata algorithms using VHDL. Microprocessors and Microsystems, 2003, 27, 381-396.	2.8	48
11	An Anticipative Crowd Management System Preventing Clogging in Exits During Pedestrian Evacuation Processes. IEEE Systems Journal, 2011, 5, 129-141.	4.6	48
12	Cellular ants: A method to create collision free trajectories for a cooperative robot team. Robotics and Autonomous Systems, 2011, 59, 113-127.	5.1	48
13	An FPGA processor for modelling wildfire spreading. Mathematical and Computer Modelling, 2013, 57, 1436-1452.	2.0	48
14	Experimental Study of Artificial Neural Networks Using a Digital Memristor Simulator. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 5098-5110.	11.3	48
15	Real-Time Active SLAM and Obstacle Avoidance for an Autonomous Robot Based on Stereo Vision. Cybernetics and Systems, 2019, 50, 239-260.	2.5	46
16	Reconstruction of DNA sequences using genetic algorithms and cellular automata: Towards mutation prediction?. BioSystems, 2008, 92, 61-68.	2.0	42
17	Real-time disparity map computation module. Microprocessors and Microsystems, 2008, 32, 159-170.	2.8	42
18	Memristor based memories: Technology, design and test. , 2014, , .		42

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19	A cellular automaton model for the study of DNA sequence evolution. Computers in Biology and Medicine, 2003, 33, 439-453.	7.0	41
20	Real Data Evaluation of a Crowd Supervising System for Stadium Evacuation and Its Hardware Implementation. IEEE Systems Journal, 2016, 10, 649-660.	4.6	41
21	A cellular automaton simulation tool for modelling seismicity in the region of Xanthi. Environmental Modelling and Software, 2007, 22, 1455-1464.	4.5	39
22	Modeling and hardware implementation of an amoeba-like cellular automaton. Bioinspiration and Biomimetics, 2012, 7, 036013.	2.9	39
23	Parallel fuzzy cellular automata for data-driven simulation of wildfire spreading. Journal of Computational Science, 2017, 21, 469-485.	2.9	39
24	Time-Domain Computing in Memory Using Spintronics for Energy-Efficient Convolutional Neural Network. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 1193-1205.	5.4	39
25	Evolving Transport Networks With Cellular Automata Models Inspired by Slime Mould. IEEE Transactions on Cybernetics, 2015, 45, 1887-1899.	9.5	38
26	Cellular automaton model of crowd evacuation inspired by slime mould. International Journal of General Systems, 2015, 44, 354-391.	2.5	37
27	A novel cellular automata based technique for visual multimedia content encryption. Optics Communications, 2010, 283, 4250-4260.	2.1	35
28	Memristor-based combinational circuits: A design methodology for encoders/decoders. Microelectronics Journal, 2014, 45, 59-70.	2.0	35
29	Alternative Architectures Toward Reliable Memristive Crossbar Memories. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 206-217.	3.1	35
30	A TCAD system for VLSI implementation of the CVD process using VHDL. The Integration VLSI Journal, 2004, 37, 63-81.	2.1	34
31	A CAD System for Modeling and Simulation of Computer Networks Using Cellular Automata. IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews, 2008, 38, 253-264.	2.9	31
32	Memristor Crossbar for Adaptive Synchronization. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 2124-2133.	5.4	30
33	Oscillation-Based Slime Mould Electronic Circuit Model for Maze-Solving Computations. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 1552-1563.	5.4	30
34	Non-probabilistic cellular automata-enhanced stereo vision simultaneous localization and mapping. Measurement Science and Technology, 2011, 22, 114027.	2.6	29
35	A cellular automaton for the propagation of circular fronts and its applications. Engineering Applications of Artificial Intelligence, 2005, 18, 731-744.	8.1	27
36	A PATH PLANNING METHOD BASED ON CELLULAR AUTOMATA FOR COOPERATIVE ROBOTS. Applied Artificial Intelligence, 2011, 25, 721-745.	3.2	27

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37	Hardware Acceleration of Cellular Automata *Physarum polycephalum* Model. Parallel Processing Letters, 2015, 25, 1540006.	0.6	27
38	Accelerating fuzzy cellular automata for modeling crowd dynamics. Journal of Computational Science, 2019, 32, 125-140.	2.9	27
39	Efficient hierarchical matching algorithm for processing uncalibrated stereo vision images and its hardware architecture. IET Image Processing, 2011, 5, 481.	2.5	26
40	Cellular automata on FPGA for real-time urban traffic signals control. Journal of Supercomputing, 2013, 65, 664-681.	3.6	24
41	On the generalization of composite memristive network structures for computational analog/digital circuits and systems. Microelectronics Journal, 2014, 45, 1380-1391.	2.0	24
42	Programmable Crossbar Quantum-Dot Cellular Automata Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 1367-1380.	2.7	24
43	A Biologically Inspired Network Design Model. Scientific Reports, 2015, 5, 10794.	3.3	23
44	An Intelligent Cellular Automaton Model for Crowd Evacuation in Fire Spreading Conditions. , 2007, , .		22
45	Nano-Crossbar Memories Comprising Parallel/Serial Complementary Memristive Switches. BioNanoScience, 2014, 4, 166-179.	3.5	22
46	Physarum in silicon: the Greek motorways study. Natural Computing, 2016, 15, 279-295.	3.0	22
47	Modelling earthquake activity features using cellular automata. Mathematical and Computer Modelling, 2007, 46, 124-137.	2.0	21
48	A new simulator for the oxidation process in integrated circuit fabrication based on cellular automata. Modelling and Simulation in Materials Science and Engineering, 1999, 7, 631-640.	2.0	19
49	Study of lithography profiles developed on non-planar Si surfaces. Nanotechnology, 1999, 10, 421-427.	2.6	19
50	Towards a slime Mould-FPGA interface. Biomedical Engineering Letters, 2015, 5, 51-57.	4.1	19
51	Modeling Physarum space exploration using memristors. Journal Physics D: Applied Physics, 2017, 50, 174004.	2.8	18
52	Cellular Automaton Belousovâ€"Zhabotinsky Model for Binary Full Adder. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2017, 27, 1750089.	1.7	18
53	Spatial games and memory effects on crowd evacuation behavior with Cellular Automata. Journal of Computational Science, 2019, 32, 87-98.	2.9	17
54	A Dense Stereo Correspondence Algorithm for Hardware Implementation with Enhanced Disparity Selection. Lecture Notes in Computer Science, 2008, , 365-370.	1.3	17

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55	A Simulation Tool for Modelling Pedestrian Dynamics during Evacuation of Large Areas. , 2006, , 618-626.		16
56	A bio-inspired multi-camera system for dynamic crowd analysis. Pattern Recognition Letters, 2014, 44, 141-151.	4.2	15
57	Automated Design Architecture for 1-D Cellular Automata Using Quantum Cellular Automata. IEEE Transactions on Computers, 2015, 64, 2476-2489.	3.4	15
58	A Complete Analytical Solution for the On and Off Dynamic Equations of a TaO Memristor. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 682-686.	3.0	15
59	Slime mould imitates development of Roman roads in the Balkans. Journal of Archaeological Science: Reports, 2015, 2, 264-281.	0.5	14
60	Physarum machines imitating a Roman road network: the 3D approach. Scientific Reports, 2017, 7, 7010.	3.3	14
61	East-West paths to unconventional computing. Progress in Biophysics and Molecular Biology, 2017, 131, 469-493.	2.9	14
62	Design and Implementation of a Fuzzy-Modified Ant Colony Hardware Structure for Image Retrieval. IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews, 2009, 39, 520-533.	2.9	13
63	SIMULATION OF HEALTHY AND EPILEPTIFORM BRAIN ACTIVITY USING CELLULAR AUTOMATA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250229.	1.7	13
64	Massively Parallel Analog Computing: Ariadne€™s Thread Was Made of Memristors. IEEE Transactions on Emerging Topics in Computing, 2015, , 1-1.	4.6	13
65	Power-Efficient Noise-Induced Reduction of ReRAM Cell€™s Temporal Variability Effects. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1378-1382.	3.0	13
66	Understanding the role of defects in Silicon Nitride-based resistive switching memories through oxygen doping. IEEE Nanotechnology Magazine, 2021, , 1-1.	2.0	13
67	Memristive learning cellular automata for edge detection. Chaos, Solitons and Fractals, 2021, 145, 110700.	5.1	13
68	In-Memory-Computing Realization with a Photodiode/Memristor Based Vision Sensor. Materials, 2021, 14, 5223.	2.9	13
69	Towards implementation of cellular automata in Microbial Fuel Cells. PLoS ONE, 2017, 12, e0177528.	2.5	13
70	Design automation of cellular neural networks for data fusion applications. Microprocessors and Microsystems, 2012, 36, 33-44.	2.8	12
71	Closed€form analytical solution for on€switching dynamics in a TaO memristor. Electronics Letters, 2017, 53, 1125-1126.	1.0	12
72	Electronic Properties of Graphene Nanoribbons With Defects. IEEE Nanotechnology Magazine, 2021, 20, 151-160.	2.0	12

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73	A Cellular Automaton Collision-Free Path Planner Suitable for Cooperative Robots. , 2008, , .		11
74	FPGA based cellular automata for environmental modeling. , 2012, , .		11
75	Memristor–based parallel sorting approach using one–dimensional cellular automata. Electronics Letters, 2014, 50, 1819-1821.	1.0	11
76	Modeling employees behavior in workplace dynamics. Journal of Computational Science, 2014, 5, 821-833.	2.9	11
77	A Cellular Automaton Model for Crowd Evacuation and Its Auto-Defined Obstacle Avoidance Attribute. Lecture Notes in Computer Science, 2010, , 455-464.	1.3	11
78	Improved read voltage margins with alternative topologies for memristor-based crossbar memories. , 2013, , .		10
79	Real–time surveillance detection system for medium–altitude long–endurance unmanned aerial vehicles. Concurrency Computation Practice and Experience, 2018, 30, e4145.	2.2	10
80	Voltage Divider for Self-Limited Analog State Programing of Memristors. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 620-624.	3.0	10
81	Emulating Artificial Synaptic Plasticity Characteristics from SiO2-Based Conductive Bridge Memories with Pt Nanoparticles. Micromachines, 2021, 12, 306.	2.9	10
82	A cellular automaton methodology for the simulation of integrated circuit fabrication processes. Future Generation Computer Systems, 2002, 18, 639-657.	7.5	9
83	On-chip earthquake simulation model using potentials. Natural Hazards, 2009, 50, 519-537.	3.4	9
84	Cooperation in a Power-Aware Embedded-System Changing Environment: Public Goods Games With Variable Multiplication Factors. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2012, 42, 596-603.	2.9	9
85	On the analog computational characteristics of memristive networks. , 2013, , .		9
86	A Cellular Automata Bioinspired Algorithm Designing Data Trees in Wireless Sensor Networks. International Journal of Distributed Sensor Networks, 2015, 11, 471045.	2.2	9
87	A MapReduce scratchpad memory for multi-core cloud computing applications. Microprocessors and Microsystems, 2015, 39, 599-608.	2.8	9
88	Modeling passengers boarding in aircraft using cellular automata. IEEE/CAA Journal of Automatica Sinica, 2016, 3, 365-384.	13.1	9
89	Clock gating methodologies and tools: a survey. International Journal of Circuit Theory and Applications, 2016, 44, 798-816.	2.0	9
90	Enhancement of hybrid renewable energy systems control with neural networks applied to weather forecasting: the case of Olvio. Neural Computing and Applications, 2016, 27, 1093-1118.	5.6	9

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91	Bioinspired algorithm for area surveillance using autonomous robots. International Journal of Parallel, Emergent and Distributed Systems, 2017, 32, 368-385.	1.0	9
92	Game of Life variations for image scrambling. Journal of Computational Science, 2017, 21, 432-447.	2.9	9
93	Probabilistic Resistive Switching Device Modeling Based on Markov Jump Processes. IEEE Access, 2021, 9, 983-988.	4.2	9
94	An Edge Preserving Image Resizing Method Based on Cellular Automata. Lecture Notes in Computer Science, 2012, , 375-384.	1.3	9
95	Follow-the-Leader Cellular Automata Based Model Directing Crowd Movement. Lecture Notes in Computer Science, 2012, , 752-762.	1.3	9
96	Memristor Crossbar Arrays Performing Quantum Algorithms. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 552-563.	5.4	9
97	An FPGA-based Integrated MapReduce Accelerator Platform. Journal of Signal Processing Systems, 2017, 87, 357-369.	2.1	8
98	Memristive Quantum Computing Simulator. IEEE Nanotechnology Magazine, 2019, 18, 1015-1022.	2.0	8
99	Study of the effects of photoresist surface roughness and defects on developed profiles. Semiconductor Science and Technology, 2000, 15, 98-107.	2.0	7
100	An algorithm for the study of DNA sequence evolution based on the genetic code. BioSystems, 2004, 77, 11-23.	2.0	7
101	Dense disparity estimation using a hierarchical matching technique from uncalibrated stereo vision. , 2009, , .		7
102	Recent Progress and Patents on Computational Structures and Methods with Memristive Devices. Recent Patents on Electrical and Electronic Engineering, 2013, 6, 101-116.	0.5	7
103	Hybrid DNA Cellular Automata for pseudorandom number generation. , 2012, , .		6
104	Study of Memristive Elements Networks. Journal of Nano Research, 2014, 27, 5-14.	0.8	6
105	A Reconfigurable MapReduce accelerator for multi-core all-programmable SoCs. , 2014, , .		6
106	The Computational Paradigm of Cellular Automata in Crowd Evacuation. International Journal of Foundations of Computer Science, 2015, 26, 851-872.	1.1	6
107	Parallel Accelerated Virtual Physarum Lab Based on Cellular Automata Agents. IEEE Access, 2019, 7, 98306-98318.	4.2	6
108	Quantum Mechanical Model for Filament Formation in Metal-Insulator-Metal Memristors. IEEE Nanotechnology Magazine, 2021, 20, 113-122.	2.0	6

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109	A new method for digital encoder adaptive velocity/acceleration evaluation using a TDC with picosecond accuracy. Microprocessors and Microsystems, 2009, 33, 453-460.	2.8	5
110	Application of Artificial Intelligence Methods to Content-Based Image Retrieval. Advances in Imaging and Electron Physics, 2011, , 99-145.	0.2	5
111	Cellular Automata on FPGAs for Image Processing. , 2012, , .		5
112	Cellular Automata Model for Crowd Behavior Management in Airports. Lecture Notes in Computer Science, 2020, , 445-456.	1.3	5
113	An Intelligent Tool for the Automated Evaluation of Pedestrian Simulation. Lecture Notes in Computer Science, 2014, , 136-149.	1.3	5
114	Biomimicry of Crowd Evacuation with a Slime Mould Cellular Automaton Model. Studies in Computational Intelligence, 2015, , 123-151.	0.9	5
115	Computationally effective stereovision SLAM. , 2010, , .		4
116	Modeling memory resources distribution on multicore processors using games on cellular automata lattices. , 2010, , .		4
117	Parametric optimisation in a 2-D cellular automata model of fundamental seismic attributes with the use of genetic algorithms. Advances in Engineering Software, 2011, 42, 623-633.	3.8	4
118	Multi-view 3D scene reconstruction using ant colony optimization techniques. Measurement Science and Technology, 2012, 23, 114002.	2.6	4
119	The HCUAV project: Electronics and software development for medium altitude remote sensing. , 2014, , .		4
120	Employing threshold-based behavior and network dynamics for the creation of memristive logic circuits and architectures. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 168-174.	0.8	4
121	Modelling Microbial Fuel Cells Using Lattice Boltzmann Methods. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2019, 16, 2035-2045.	3.0	4
122	Conway's Game of Life in Quantum-dot Cellular Automata. Microelectronics Journal, 2021, 109, 104972.	2.0	4
123	Protein Structured Reservoir Computing for Spike-Based Pattern Recognition. IEEE Transactions on Parallel and Distributed Systems, 2022, 33, 322-331.	5.6	4
124	Material design strategies for emulating neuromorphic functionalities with resistive switching memories. Japanese Journal of Applied Physics, 2022, 61, SM0806.	1.5	4
125	Synchronization in Quantum-Dot Cellular Automata Circuits and Systems. IEEE Open Journal of Nanotechnology, 2020, 1, 145-156.	2.0	3
126	Chemical Wave Computing from Labware to Electrical Systems. Electronics (Switzerland), 2022, 11, 1683.	3.1	3

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127	Study of the effect of non-planarity and defects on the geometrical accuracy of semiconductor surface structures using a CA_TCAD system. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 80, 68-72.	3.5	2
128	Automatic Generation of Cellular Neural Networks for Distributed Sensor Data Processing. , 2009, , .		2
129	Depicting pathways for cooperative miniature robots using Cellular Automata. , 2011, , .		2
130	Evaluating conflicts impact over shared last-level cache using public goods game on cellular automata. , 2013, , .		2
131	Morphological edge detector implemented in Quantum Cellular Automata. , 2013, , .		2
132	Identification and retrieval of DNA genomes using binary image representations produced by cellular automata. , 2014, , .		2
133	Simulation of Aircraft Disembarking and Emergency Evacuation. , 2014, , .		2
134	Cellular automata simulation of saltwater intrusion in coastal aquifer. International Journal of Parallel, Emergent and Distributed Systems, 2016, 31, 517-528.	1.0	2
135	Special issue on Simulation with Cellular Automata. Simulation, 2016, 92, 99-100.	1.8	2
136	Vehicle Windshield Detection by Fast and Compact Encoder-Decoder FCN Architecture. , 2019, , .		2
137	FPGA Design of a Cellular Automaton Model for Railway Traffic Flow with GPS Module. Lecture Notes in Computer Science, 2010, , 373-384.	1.3	2
138	Power estimation of 1-d Cellular Automata circuits. , 2010, , .		1
139	Optimization of Shared-Memory Multicore Systems Using Game Theory and Genetic Algorithms on Cellular Automata Lattices. , 2013, , .		1
140	Modelling real earthquake activity with reverse engineering based on evolutionary computation methods. Georisk, 2013, 7, 275-288.	3.5	1
141	Building exploration with leeches Hirudo verbana. BioSystems, 2015, 134, 48-55.	2.0	1
142	Chemical Excitable Medium in Barcelona Street Network as a Method for Panicked Crowds Behavior Analysis. Complex Systems, 2019, 28, 41-58.	0.3	1
143	Cellular Automata for Crowd Dynamics. Lecture Notes in Computer Science, 2014, , 58-69.	1.3	1
144	Application of Neural Networks Solar Radiation Prediction for Hybrid Renewable Energy Systems. Communications in Computer and Information Science, 2014, , 133-144.	0.5	1

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145	Potential Field Approach of a Cellular Automaton Evacuation Model and Its FPGA Implementation. Lecture Notes in Computer Science, 2008, , 546-549.	1.3	1
146	A GIS-aided cellular automata system for monitoring and estimating graph-based spread of epidemics. Natural Computing, 2022, 21, 463-480.	3.0	1
147	A fault-tolerant message passing algorithm and its hardware implementation. Advances in Engineering Software, 2005, 36, 159-171.	3.8	0
148	A Self-regulation Mechanism of the Resist Development Process in Integrated Circuit Fabrication and its Phase-space Picture. Journal of Computer-Aided Materials Design, 2005, 12, 35-56.	0.7	0
149	Implementing cellular automata modeled applications on network-on-chip platforms. , 2007, , .		0
150	FPGA Realization of a Cellular Automata Based Epidemic Processor. Lecture Notes in Computer Science, 2010, , 569-574.	1.3	0
151	Cellular Automata Simulation of Saltwater Intrusion in Coastal Aquifer. , 2011, , .		0
152	An event-driven model simulating fundamental seismic characteristics with the use of cellular automata. Physics and Chemistry of the Earth, 2012, 49, 64-78.	2.9	0
153	Revisiting the cutting of the firing squad synchronization. Natural Computing, 2018, 17, 455-465.	3.0	0
154	Special issue on â€˜Advances in Memristive Networksâ€™. International Journal of Parallel, Emergent and Distributed Systems, 2018, 33, 347-349.	1.0	0
155	Meet the editors. International Journal of Parallel, Emergent and Distributed Systems, 2018, 33, 445-447.	1.0	0
156	Spreading Patterns of Mobile Phone Viruses Using Cellular Automata. Lecture Notes in Computer Science, 2012, , 263-272.	1.3	0