Juan Gabriel Avina-Cervantes

List of Publications by Year
in descending order

115 papers	1,338 citations	516561 16 h-index	414303 32 g-index
117 all docs	117 docs citations	117 times ranked	1430 citing authors

#	Article	IF	Citations
1	Hybrid classical–quantum Convolutional Neural Network for stenosis detection in X-ray coronary angiography. Expert Systems With Applications, 2022, 189, 116112.	4.4	26
2	Modeling of electric springs and their multi-objective voltage control based on continuous genetic algorithm for unbalanced distribution networks. International Journal of Electrical Power and Energy Systems, 2022, 138, 107979.	3.3	4
3	Improving convolutional neural network learning based on a hierarchical bezier generative model for stenosis detection in X-ray images. Computer Methods and Programs in Biomedicine, 2022, 219, 106767.	2.6	12
4	Scalable Visible Light Indoor Positioning System Using RSS. Mathematics, 2022, 10, 1738.	1.1	0
5	On removing conflicts for machine learning. Expert Systems With Applications, 2022, 206, 117835.	4.4	3
6	Handwriting Recognition Based on 3D Accelerometer Data by Deep Learning. Applied Sciences (Switzerland), 2022, 12, 6707.	1.3	3
7	Improving Motor Imagery EEG Classification Based on Channel Selection Using a Deep Learning Architecture. Mathematics, 2022, 10, 2302.	1.1	10
8	Transfer Learning for Humanoid Robot Appearance-Based Localization in a Visual Map. IEEE Access, 2021, 9, 6868-6877.	2.6	9
9	Optimization-Based Strategies for Optimal Inverse Parameters Estimation for Heat Transfer Systems. IEEE Access, 2021, 9, 71328-71343.	2.6	1
10	Motor Imagery Classification Based on a Recurrent-Convolutional Architecture to Control a Hexapod Robot. Mathematics, 2021, 9, 606.	1.1	15
11	Segmentation of brain tumour in 3D Intraoperative Ultrasound imaging. International Journal of Medical Robotics and Computer Assisted Surgery, 2021, 17, e2320.	1.2	1
12	Image Encryption and Decryption System through a Hybrid Approach Using the Jigsaw Transform and Langton's Ant Applied to Retinal Fundus Images. Axioms, 2021, 10, 215.	0.9	7
13	Novel Calorimetric Approach for Thermal Analysis of Microelectronic Devices. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 1442-1451.	1.4	1
14	FPGA-based architecture to estimate the input glucose in a dark fermenter using a super-twisting observer. Microprocessors and Microsystems, 2021, 85, 104297.	1.8	1
15	Energy management system optimization in islanded microgrids: An overview and future trends. Renewable and Sustainable Energy Reviews, 2021, 149, 111327.	8.2	75
16	Automatic Feature Selection for Stenosis Detection in X-ray Coronary Angiograms. Mathematics, 2021, 9, 2471.	1.1	4
17	Hybrid Controller Based on LQR Applied to Interleaved Boost Converter and Microgrids under Power Quality Events. Energies, 2021, 14, 6909.	1.6	5
18	Imaginary Finger Movements Decoding Using Empirical Mode Decomposition and a Stacked BiLSTM Architecture. Mathematics, 2021, 9, 3297.	1.1	10

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19	Hybrid LQR-PI Control for Microgrids under Unbalanced Linear and Nonlinear Loads. Mathematics, 2020, 8, 1096.	1.1	9
20	Linearly Decoupled Control of a Dynamic Voltage Restorer without Energy Storage. Mathematics, 2020, 8, 1794.	1.1	6
21	Differential Neural Networks (DNN). IEEE Access, 2020, 8, 156530-156538.	2.6	3
22	Transfer Learning for Stenosis Detection in X-ray Coronary Angiography. Mathematics, 2020, 8, 1510.	1.1	28
23	Algorithmic Analysis of Vesselness and Blobness for Detecting Retinopathies Based on Fractional Gaussian Filters. Mathematics, 2020, 8, 744.	1.1	2
24	Preprocessing and Labeling Tool for Lateral Skull X-Ray Images Applied to Cephalometric Analysis. , 2020, , .		1
25	Multi-Stroke handwriting character recognition based on sEMG using convolutional-recurrent neural networks. Mathematical Biosciences and Engineering, 2020, 17, 5432-5448.	1.0	7
26	Matrix Converter Based on SVD Modulation Using a Microcontroller as Unique Controlling Device. IEEE Access, 2019, 7, 164815-164824.	2.6	4
27	Fractional Calculus-Based Processing for Feature Extraction in Harmonic-Polluted Fault Monitoring Systems. Energies, 2019, 12, 3736.	1.6	1
28	Conic sections fitting in disperse data using Differential Evolution. Applied Soft Computing Journal, 2019, 85, 105769.	4.1	2
29	Parallel Hierarchical Genetic Algorithm for Scattered Data Fitting through B-Splines. Applied Sciences (Switzerland), 2019, 9, 2336.	1.3	9
30	Four-Step Current Commutation Strategy for a Matrix Converter Based on Enhanced-PWM MCU Peripherals. Electronics (Switzerland), 2019, 8, 547.	1.8	7
31	A closed form expression for the Gaussian–based Caputo–Fabrizio fractional derivative for signal processing applications. Communications in Nonlinear Science and Numerical Simulation, 2018, 61, 138-148.	1.7	64
32	Patient-specific model-based segmentation of brain tumors in 3D intraoperative ultrasound images. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 331-342.	1.7	9
33	Coronary artery segmentation in X-ray angiograms using gabor filters and differential evolution. Applied Radiation and Isotopes, 2018, 138, 18-24.	0.7	10
34	A New Improvement Scheme Of Spiral Algorithm (Performance Test). , 2018, , .		1
35	B-spline neural network for real and reactive power control of a wind turbine. Electrical Engineering, 2018, 100, 2799-2813.	1.2	6
36	Analysis of Data Sets With Learning Conflicts for Machine Learning. IEEE Access, 2018, 6, 45062-45070.	2.6	16

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37	Blood vessel segmentation in retinal fundus images using Gabor filters, fractional derivatives, and Expectation Maximization. Applied Mathematics and Computation, 2018, 339, 568-587.	1.4	56
38	Global optimization algorithms applied in a parameter estimation strategy. Revista UIS IngenierÃas, 2018, 13, 233-242.	0.1	4
39	Methodology for fault detection in induction motors via sound and vibration signals. Mechanical Systems and Signal Processing, 2017, 83, 568-589.	4.4	189
40	Automatic selection of localized region-based active contour models using image content analysis applied to brain tumor segmentation. Computers in Biology and Medicine, 2017, 91, 69-79.	3.9	48
41	Design of Microelectronic Cooling Systems Using a Thermodynamic Optimization Strategy Based on Cuckoo Search. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2017, 7, 1804-1812.	1.4	10
42	Multiple signal classification based on automatic order selection method for broken rotor bar detection in induction motors. Electrical Engineering, 2017, 99, 987-996.	1.2	7
43	Localized active contour model with background intensity compensation applied on automatic MR brain tumor segmentation. Neurocomputing, 2017, 220, 84-97.	3.5	70
44	Primary study on the stochastic spiral optimization algorithm. , 2017, , .		10
45	Fusion of Intraoperative 3D B-mode and Contrast-Enhanced Ultrasound Data for Automatic Identification of Residual Brain Tumors. Applied Sciences (Switzerland), 2017, 7, 415.	1.3	5
46	Fast Parabola Detection Using Estimation of Distribution Algorithms. Computational and Mathematical Methods in Medicine, 2017, 2017, 1-13.	0.7	10
47	Vascular Structure Identification in Intraoperative 3D Contrast-Enhanced Ultrasound Data. Sensors, 2016, 16, 497.	2.1	11
48	Segmentation of Coronary Angiograms Using Gabor Filters and Boltzmann Univariate Marginal Distribution Algorithm. Computational Intelligence and Neuroscience, 2016, 2016, 1-9.	1.1	8
49	Automatic bone segmentation by a Gaussian modeled threshold. AIP Conference Proceedings, 2016, , .	0.3	2
50	Guitar audio signal classification by collapsed Pitch Class Profile. , 2016, , .		1
51	Active contours driven by Cuckoo Search strategy for brain tumour images segmentation. Expert Systems With Applications, 2016, 56, 59-68.	4.4	72
52	Automatic brain tumor tissue detection based on hierarchical centroid shape descriptor in Tl-weighted MR images. , 2016, , .		9
53	Automatic segmentation of coronary arteries using Gabor filters and thresholding based on multiobjective optimization. Biomedical Signal Processing and Control, 2016, 25, 76-85.	3.5	34
54	Guitar Chords Classification Using Uncertainty Measurements of Frequency Bins. Mathematical Problems in Engineering, 2015, 2015, 1-9.	0.6	3

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55	Automatic Curve Fitting Based on Radial Basis Functions and a Hierarchical Genetic Algorithm. Mathematical Problems in Engineering, 2015, 2015, 1-14.	0.6	6
56	Comparative Study of Time-Frequency Decomposition Techniques for Fault Detection in Induction Motors Using Vibration Analysis during Startup Transient. Shock and Vibration, 2015, 2015, 1-14.	0.3	26
57	Design of an Optimal Heat Sink for Microelectronic Devices Using Entropy Generation Minimization. , 2015, , .		2
58	A CPG system based on spiking neurons for hexapod robot locomotion. Neurocomputing, 2015, 170, 47-54.	3.5	42
59	Evaluation of thermal patterns and distribution applied to the study of diabetic foot. , 2015, , .		11
60	Quantitative Estimation of Temperature Variations in Plantar Angiosomes: A Study Case for Diabetic Foot. Computational and Mathematical Methods in Medicine, 2014, 2014, 1-10.	0.7	55
61	Pitch estimation for musical note recognition using Artificial Neural Networks. , 2014, , .		8
62	Fast and Accurate Cell Tracking by a Novel Optical-Digital Hybrid Method. International Journal of Thermophysics, 2013, 34, 1435-1443.	1.0	0
63	Pattern Recognition in Photoacoustic Dataset. International Journal of Thermophysics, 2013, 34, 1638-1645.	1.0	3
64	Digital Image Processing Technique for Breast Cancer Detection. International Journal of Thermophysics, 2013, 34, 1519-1531.	1.0	44
65	Principal component analysis for speed limit Traffic Sign Recognition. , 2013, , .		6
66	Eigen-Gradients for Traffic Sign Recognition. Mathematical Problems in Engineering, 2013, 2013, 1-6.	0.6	15
67	Automatic Image Segmentation Using Active Contours with Univariate Marginal Distribution. Mathematical Problems in Engineering, 2013, 2013, 1-9.	0.6	7
68	Noisy data fitting with B-splines using hierarchical genetic algorithm. , 2013, , .		0
69	Unsupervised Cardiac Image Segmentation via Multiswarm Active Contours with a Shape Prior. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-10.	0.7	4
70	Multiple Active Contours Driven by Particle Swarm Optimization for Cardiac Medical Image Segmentation. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-13.	0.7	12
71	Multiple Active Contours Guided by Differential Evolution for Medical Image Segmentation. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-14.	0.7	6
72	Traffic Sign Recognition Based on Linear Discriminant Analysis. Lecture Notes in Computer Science, 2013, , 185-193.	1.0	2

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73	Segmentation of Heart in Computed Tomography Images using Swarm and Evolutionary Active Contours. , 2013, , .		0
74	B-spline Surface Approximation Using Hierarchical Genetic Algorithm. Lecture Notes in Computer Science, 2013, , 52-63.	1.0	0
75	Fabrication of Mach-Zehnder interferometers with conventional fiber optics in detection applications of micro-displacement and liquids. Proceedings of SPIE, 2012, , .	0.8	4
76	Reduction of temporal complexity in Markov decision processes. , 2012, , .		1
77	Nano-droplet formation in polymer dispersed liquid crystals. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 1515-1520.	0.8	11
78	New prioritized value iteration for Markov decision processes. Artificial Intelligence Review, 2012, 37, 157-167.	9.7	5
79	3D city models: Mapping approach using LIDAR technology. , 2011, , .		5
80	Analysis of self-similar data by artificial neural networks. , 2011, , .		3
81	Implementation and Test of Appearance-Based Vision Algorithms Using High-Level Synthesis in FPGA. , 2011, , .		5
82	Mixed Acceleration Techniques for Solving Quickly Stochastic Shortest-Path Markov Decision Processes. Journal of Applied Research and Technology, 2011, 9, .	0.6	0
83	Combination of acceleration procedures for solving stochastic shortest-path Markov decision processes. , 2010, , .		1
84	Two-dimensional cell tracking by FPGA-optical correlation method. , 2009, , .		0
85	Digital-Optical Experimental Set Up for In vitro Cell Tracking based on Cross Correlation Technique. , 2009, , .		0
86	Cells Tracking by Snakes. AIP Conference Proceedings, 2008, , .	0.3	0
87	Using Complex Neural Networks on Noise Cancelling. , 2008, , .		2
88	Cell tracking by normalized cross-correlation with image processing. , 2008, , .		2
89	Evolution of bright to dark photonic lattices in nonlinear medium type Kerr. , 2008, , .		0
90	Boosting for Image Interpretation by Using Natural Features. , 2008, , .		4

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91	Reducing Computational Complexity in Markov Decision Processes Using Abstract Actions. , 2008, , .		0
92	Access Control System Using an Embedded System and Radio Frequency Identification Technology. , 2008, , .		6
93	Cell recognition and tracking using nonlinear cross-correlation. , 2008, , .		0
94	Color Texture Histograms for Natural Images Interpretation. , 2007, , .		4
95	Image Processing for in Vitro Cell Tracking. IFMBE Proceedings, 2007, , 1148-1151.	0.2	0
96	Cell Tracking by Border-Optical Hybrid Model. , 2007, , .		0
97	Shadows Attenuation for Robust Object Recognition. , 2007, , 650-659.		1
98	Detection of Biological Cells in Phase-Contrast Microscopy Images. , 2006, , .		16
99	Frequency, time-frequency and wavelet analysis of ECG signal. , 2006, , .		5
100	Detection of biological cells in phase-contrast video microscopy. , 2006, , .		0
101	A Practical and Cheap Circuit for ECG Sensing and Heart Frequency Alarm. AIP Conference Proceedings, 2006, , .	0.3	0
102	Glucose Optical Fiber Sensor Based on Sol-Gel Technique with Ruthenium (III) Chloride Hydrate and Glucose Oxidase Enzyme. AIP Conference Proceedings, 2006, , .	0.3	1
103	Photonic Band-Gaps in Periodic Lattices Arrays. , 2006, , .		0
104	Design and characterization of pH sensor based on sol–gel silica layer on plastic optical fiber. Sensors and Actuators B: Chemical, 2005, 106, 518-522.	4.0	35
105	Towards landmine detection using artificial vision. , 2005, , .		6
106	Detection of Closure Features in Gray-Level Images by Using Support Vector Machines. Telecommunications and Radio Engineering (English Translation of Elektrosvyaz and Radiotekhnika), 2005, 64, 923-929.	0.2	0
107	Scene Modeling by ICA and Color Segmentation. Lecture Notes in Computer Science, 2004, , 574-583.	1.0	1
108	Total internal reflection of spatial solitons at interface formed by a nonlinear saturable and a linear medium. Optics Communications, 2001, 193, 267-276.	1.0	25

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109	Experimental evidence of internal reflection of two-dimensional beam in photorefractive (SBN61:Ce) interface. , 2000, , .		0
110	Stochastic optical solitons in nonlinear media type kerr. , 0, , .		0
111	Robot Visual Navigation in Semi-structured Outdoor Environments. , 0, , .		20
112	Automatic tissue segmentation of hyperspectral images in liver and head neck surgeries using machine learning. , 0, , .		3
113	Modeling of Electric Springs and Their Multi-Objective Voltage Control Based on Continuous Genetic Algorithm for Unbalanced Distribution Networks. SSRN Electronic Journal, 0, , .	0.4	0
114	Attention Mechanisms Evaluated on Stenosis Detection using X-ray Angiography Images. Journal of Advances in Applied & Computational Mathematics, 0, 9, 62-75.	0.1	1
115	Empirical Mode Decomposition and a Bidirectional LSTM Architecture Used to Decode Individual Finger MI-EEG Signals. Journal of Advances in Applied & Computational Mathematics, 0, 9, 32-48.	0.1	1