

# Juan Gabriel Avina-Cervantes

## List of Publications by Year in descending order

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Version: 2024-02-01

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	Methodology for fault detection in induction motors via sound and vibration signals. Mechanical Systems and Signal Processing, 2017, 83, 568-589.	4.4	189
2	Energy management system optimization in islanded microgrids: An overview and future trends. Renewable and Sustainable Energy Reviews, 2021, 149, 111327.	8.2	75
3	Active contours driven by Cuckoo Search strategy for brain tumour images segmentation. Expert Systems With Applications, 2016, 56, 59-68.	4.4	72
4	Localized active contour model with background intensity compensation applied on automatic MR brain tumor segmentation. Neurocomputing, 2017, 220, 84-97.	3.5	70
5	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
6	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
7	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
8	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
9	Digital Image Processing Technique for Breast Cancer Detection. International Journal of Thermophysics, 2013, 34, 1519-1531.	1.0	44
10	A CPG system based on spiking neurons for hexapod robot locomotion. Neurocomputing, 2015, 170, 47-54.	3.5	42
11	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
12	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
13	Transfer Learning for Stenosis Detection in X-ray Coronary Angiography. Mathematics, 2020, 8, 1510.	1.1	28
14	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
15	Hybrid classical-quantum Convolutional Neural Network for stenosis detection in X-ray coronary angiography. Expert Systems With Applications, 2022, 189, 116112.	4.4	26
16	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
17	Robot Visual Navigation in Semi-structured Outdoor Environments. , 0, , .		20
18	Detection of Biological Cells in Phase-Contrast Microscopy Images. , 2006, , .		16

#	ARTICLE	IF	CITATIONS
19	Analysis of Data Sets With Learning Conflicts for Machine Learning. IEEE Access, 2018, 6, 45062-45070.	2.6	16
20	Eigen-Gradients for Traffic Sign Recognition. Mathematical Problems in Engineering, 2013, 2013, 1-6.	0.6	15
21	Motor Imagery Classification Based on a Recurrent-Convolutional Architecture to Control a Hexapod Robot. Mathematics, 2021, 9, 606.	1.1	15
22	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
23	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
24	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
25	Evaluation of thermal patterns and distribution applied to the study of diabetic foot. , 2015, , .		11
26	Vascular Structure Identification in Intraoperative 3D Contrast-Enhanced Ultrasound Data. Sensors, 2016, 16, 497.	2.1	11
27	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
28	Primary study on the stochastic spiral optimization algorithm. , 2017, , .		10
29	Fast Parabola Detection Using Estimation of Distribution Algorithms. Computational and Mathematical Methods in Medicine, 2017, 2017, 1-13.	0.7	10
30	Coronary artery segmentation in X-ray angiograms using gabor filters and differential evolution. Applied Radiation and Isotopes, 2018, 138, 18-24.	0.7	10
31	Imaginary Finger Movements Decoding Using Empirical Mode Decomposition and a Stacked BiLSTM Architecture. Mathematics, 2021, 9, 3297.	1.1	10
32	Improving Motor Imagery EEG Classification Based on Channel Selection Using a Deep Learning Architecture. Mathematics, 2022, 10, 2302.	1.1	10
33	Automatic brain tumor tissue detection based on hierarchical centroid shape descriptor in T1-weighted MR images. , 2016, , .		9
34	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
35	Parallel Hierarchical Genetic Algorithm for Scattered Data Fitting through B-Splines. Applied Sciences (Switzerland), 2019, 9, 2336.	1.3	9
36	Hybrid LQR-PI Control for Microgrids under Unbalanced Linear and Nonlinear Loads. Mathematics, 2020, 8, 1096.	1.1	9

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37	Transfer Learning for Humanoid Robot Appearance-Based Localization in a Visual Map. IEEE Access, 2021, 9, 6868-6877.	2.6	9
38	Pitch estimation for musical note recognition using Artificial Neural Networks. , 2014, , .		8
39	Segmentation of Coronary Angiograms Using Gabor Filters and Boltzmann Univariate Marginal Distribution Algorithm. Computational Intelligence and Neuroscience, 2016, 2016, 1-9.	1.1	8
40	Automatic Image Segmentation Using Active Contours with Univariate Marginal Distribution. Mathematical Problems in Engineering, 2013, 2013, 1-9.	0.6	7
41	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
42	Four-Step Current Commutation Strategy for a Matrix Converter Based on Enhanced-PWM MCU Peripherals. Electronics (Switzerland), 2019, 8, 547.	1.8	7
43	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
44	Multi-Stroke handwriting character recognition based on sEMG using convolutional-recurrent neural networks. Mathematical Biosciences and Engineering, 2020, 17, 5432-5448.	1.0	7
45	Towards landmine detection using artificial vision. , 2005, , .		6
46	Access Control System Using an Embedded System and Radio Frequency Identification Technology. , 2008, , .		6
47	Principal component analysis for speed limit Traffic Sign Recognition. , 2013, , .		6
48	Multiple Active Contours Guided by Differential Evolution for Medical Image Segmentation. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-14.	0.7	6
49	Automatic Curve Fitting Based on Radial Basis Functions and a Hierarchical Genetic Algorithm. Mathematical Problems in Engineering, 2015, 2015, 1-14.	0.6	6
50	B-spline neural network for real and reactive power control of a wind turbine. Electrical Engineering, 2018, 100, 2799-2813.	1.2	6
51	Linearly Decoupled Control of a Dynamic Voltage Restorer without Energy Storage. Mathematics, 2020, 8, 1794.	1.1	6
52	Frequency, time-frequency and wavelet analysis of ECG signal. , 2006, , .		5
53	3D city models: Mapping approach using LIDAR technology. , 2011, , .		5
54	Implementation and Test of Appearance-Based Vision Algorithms Using High-Level Synthesis in FPGA. , 2011, , .		5

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55	New prioritized value iteration for Markov decision processes. Artificial Intelligence Review, 2012, 37, 157-167.	9.7	5
56	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
57	Hybrid Controller Based on LQR Applied to Interleaved Boost Converter and Microgrids under Power Quality Events. Energies, 2021, 14, 6909.	1.6	5
58	Color Texture Histograms for Natural Images Interpretation. , 2007, , .		4
59	Boosting for Image Interpretation by Using Natural Features. , 2008, , .		4
60	Fabrication of Mach-Zehnder interferometers with conventional fiber optics in detection applications of micro-displacement and liquids. Proceedings of SPIE, 2012, , .	0.8	4
61	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
62	Matrix Converter Based on SVD Modulation Using a Microcontroller as Unique Controlling Device. IEEE Access, 2019, 7, 164815-164824.	2.6	4
63	Global optimization algorithms applied in a parameter estimation strategy. Revista UIS Ingenierías, 2018, 13, 233-242.	0.1	4
64	Automatic Feature Selection for Stenosis Detection in X-ray Coronary Angiograms. Mathematics, 2021, 9, 2471.	1.1	4
65	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
66	Analysis of self-similar data by artificial neural networks. , 2011, , .		3
67	Pattern Recognition in Photoacoustic Dataset. International Journal of Thermophysics, 2013, 34, 1638-1645.	1.0	3
68	Guitar Chords Classification Using Uncertainty Measurements of Frequency Bins. Mathematical Problems in Engineering, 2015, 2015, 1-9.	0.6	3
69	Differential Neural Networks (DNN). IEEE Access, 2020, 8, 156530-156538.	2.6	3
70	Automatic tissue segmentation of hyperspectral images in liver and head neck surgeries using machine learning. , 0, , .		3
71	On removing conflicts for machine learning. Expert Systems With Applications, 2022, 206, 117835.	4.4	3
72	Handwriting Recognition Based on 3D Accelerometer Data by Deep Learning. Applied Sciences (Switzerland), 2022, 12, 6707.	1.3	3

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73	Using Complex Neural Networks on Noise Cancelling. , 2008, , .		2
74	Cell tracking by normalized cross-correlation with image processing. , 2008, , .		2
75	Design of an Optimal Heat Sink for Microelectronic Devices Using Entropy Generation Minimization. , 2015, , .		2
76	Automatic bone segmentation by a Gaussian modeled threshold. AIP Conference Proceedings, 2016, , .	0.3	2
77	Conic sections fitting in disperse data using Differential Evolution. Applied Soft Computing Journal, 2019, 85, 105769.	4.1	2
78	Algorithmic Analysis of Vesselness and Blobness for Detecting Retinopathies Based on Fractional Gaussian Filters. Mathematics, 2020, 8, 744.	1.1	2
79	Traffic Sign Recognition Based on Linear Discriminant Analysis. Lecture Notes in Computer Science, 2013, , 185-193.	1.0	2
80	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
81	Combination of acceleration procedures for solving stochastic shortest-path Markov decision processes. , 2010, , .		1
82	Reduction of temporal complexity in Markov decision processes. , 2012, , .		1
83	Guitar audio signal classification by collapsed Pitch Class Profile. , 2016, , .		1
84	A New Improvement Scheme Of Spiral Algorithm (Performance Test). , 2018, , .		1
85	Fractional Calculus-Based Processing for Feature Extraction in Harmonic-Polluted Fault Monitoring Systems. Energies, 2019, 12, 3736.	1.6	1
86	Optimization-Based Strategies for Optimal Inverse Parameters Estimation for Heat Transfer Systems. IEEE Access, 2021, 9, 71328-71343.	2.6	1
87	Segmentation of brain tumour in 3D Intraoperative Ultrasound imaging. International Journal of Medical Robotics and Computer Assisted Surgery, 2021, 17, e2320.	1.2	1
88	Novel Calorimetric Approach for Thermal Analysis of Microelectronic Devices. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2021, 11, 1442-1451.	1.4	1
89	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
90	Preprocessing and Labeling Tool for Lateral Skull X-Ray Images Applied to Cephalometric Analysis. , 2020, , .		1

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91	Scene Modeling by ICA and Color Segmentation. Lecture Notes in Computer Science, 2004, , 574-583.	1.0	1
92	Shadows Attenuation for Robust Object Recognition. , 2007, , 650-659.		1
93	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
94	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
95	Experimental evidence of internal reflection of two-dimensional beam in photorefractive (SBN61:Ce) interface. , 2000, , .		0
96	Stochastic optical solitons in nonlinear media type kerr. , 0, , .		0
97	Detection of biological cells in phase-contrast video microscopy. , 2006, , .		0
98	A Practical and Cheap Circuit for ECG Sensing and Heart Frequency Alarm. AIP Conference Proceedings, 2006, , .	0.3	0
99	Photonic Band-Gaps in Periodic Lattices Arrays. , 2006, , .		0
100	Image Processing for in Vitro Cell Tracking. IFMBE Proceedings, 2007, , 1148-1151.	0.2	0
101	Cells Tracking by Snakes. AIP Conference Proceedings, 2008, , .	0.3	0
102	Evolution of bright to dark photonic lattices in nonlinear medium type Kerr. , 2008, , .		0
103	Reducing Computational Complexity in Markov Decision Processes Using Abstract Actions. , 2008, , .		0
104	Cell recognition and tracking using nonlinear cross-correlation. , 2008, , .		0
105	Two-dimensional cell tracking by FPGA-optical correlation method. , 2009, , .		0
106	Fast and Accurate Cell Tracking by a Novel Optical-Digital Hybrid Method. International Journal of Thermophysics, 2013, 34, 1435-1443.	1.0	0
107	Noisy data fitting with B-splines using hierarchical genetic algorithm. , 2013, , .		0
108	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

#	ARTICLE	IF	CITATIONS
109	Cell Tracking by Border-Optical Hybrid Model. , 2007, , .		0
110	Digital-Optical Experimental Set Up for In vitro Cell Tracking based on Cross Correlation Technique. , 2009, , .		0
111	Mixed Acceleration Techniques for Solving Quickly Stochastic Shortest-Path Markov Decision Processes. Journal of Applied Research and Technology, 2011, 9, .	0.6	0
112	Segmentation of Heart in Computed Tomography Images using Swarm and Evolutionary Active Contours. , 2013, , .		0
113	B-spline Surface Approximation Using Hierarchical Genetic Algorithm. Lecture Notes in Computer Science, 2013, , 52-63.	1.0	0
114	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
115	Scalable Visible Light Indoor Positioning System Using RSS. Mathematics, 2022, 10, 1738.	1.1	0