

Michael N Vrahatis

List of Publications by Year in descending order

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68
papers

3,590
citations

304743

22
h-index

138484

58
g-index

73
all docs

73
docs citations

73
times ranked

2587
citing authors

#	ARTICLE	IF	CITATIONS
1	Recent approaches to global optimization problems through Particle Swarm Optimization. <i>Natural Computing</i> , 2002, 1, 235-306.	3.0	1,131
2	Enhancing Differential Evolution Utilizing Proximity-Based Mutation Operators. <i>IEEE Transactions on Evolutionary Computation</i> , 2011, 15, 99-119.	10.0	391
3	Effective Backpropagation Training with Variable Stepsize. <i>Neural Networks</i> , 1997, 10, 69-82.	5.9	165
4	No Free Lunch Theorem: A Review. <i>Springer Optimization and Its Applications</i> , 2019, , 57-82.	0.9	154
5	Memetic particle swarm optimization. <i>Annals of Operations Research</i> , 2007, 156, 99-127.	4.1	136
6	Fuzzy Cognitive Maps Learning Using Particle Swarm Optimization. <i>Journal of Intelligent Information Systems</i> , 2005, 25, 95-121.	3.9	132
7	New globally convergent training scheme based on the resilient propagation algorithm. <i>Neurocomputing</i> , 2005, 64, 253-270.	5.9	122
8	A class of gradient unconstrained minimization algorithms with adaptive stepsize. <i>Journal of Computational and Applied Mathematics</i> , 2000, 114, 367-386.	2.0	105
9	Neural network-based colonoscopic diagnosis using on-line learning and differential evolution. <i>Applied Soft Computing Journal</i> , 2004, 4, 369-379.	7.2	88
10	Data preprocessing in predictive data mining. <i>Knowledge Engineering Review</i> , 2019, 34, .	2.6	80
11	Solving systems of nonlinear equations using the nonzero value of the topological degree. <i>ACM Transactions on Mathematical Software</i> , 1988, 14, 312-329.	2.9	71
12	Parallel evolutionary training algorithms for "hardware-friendly" neural networks. <i>Natural Computing</i> , 2002, 1, 307-322.	3.0	60
13	An Efficient Method for Locating and Computing Periodic Orbits of Nonlinear Mappings. <i>Journal of Computational Physics</i> , 1995, 119, 105-119.	3.8	57
14	Algorithm 666: Chabris: a mathematical software package for locating and evaluating roots of systems of nonlinear equations. <i>ACM Transactions on Mathematical Software</i> , 1988, 14, 330-336.	2.9	50
15	Design and Analysis of Optimization Algorithms Using Computational Statistics. <i>Applied Numerical Analysis and Computational Mathematics</i> , 2004, 1, 413-433.	0.6	46
16	Finding multiple global optima exploiting differential evolution's niching capability. , 2011, , .		43
17	Improving fuzzy cognitive maps learning through memetic particle swarm optimization. <i>Soft Computing</i> , 2009, 13, 77-94.	3.6	35
18	Hardware-friendly Higher-Order Neural Network Training using Distributed Evolutionary Algorithms. <i>Applied Soft Computing Journal</i> , 2010, 10, 398-408.	7.2	34

#	ARTICLE	IF	CITATIONS
19	Novel Approaches to Probabilistic Neural Networks Through Bagging and Evolutionary Estimating of Prior Probabilities. <i>Neural Processing Letters</i> , 2008, 27, 153-162.	3.2	31
20	Unsupervised clustering on dynamic databases. <i>Pattern Recognition Letters</i> , 2005, 26, 2116-2127.	4.2	24
21	Generalized locally recurrent probabilistic neural networks with application to text-independent speaker verification. <i>Neurocomputing</i> , 2007, 70, 1424-1438.	5.9	24
22	Detecting resonances in conservative maps using evolutionary algorithms. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2009, 373, 334-341.	2.1	24
23	Locating and Computing All the Simple Roots and Extrema of a Function. <i>SIAM Journal of Scientific Computing</i> , 1996, 17, 1232-1248.	2.8	23
24	A short proof and a generalization of Miranda's existence theorem. <i>Proceedings of the American Mathematical Society</i> , 1989, 107, 701-703.	0.8	21
25	Application of the Characteristic Bisection Method for locating and computing periodic orbits in molecular systems. <i>Computer Physics Communications</i> , 2001, 138, 53-68.	7.5	18
26	Evolving cognitive and social experience in Particle Swarm Optimization through Differential Evolution. , 2010, , .		18
27	ADAPTIVE ALGORITHMS FOR NEURAL NETWORK SUPERVISED LEARNING: A DETERMINISTIC OPTIMIZATION APPROACH. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2006, 16, 1929-1950.	1.7	17
28	Interactive music composition driven by feature evolution. <i>SpringerPlus</i> , 2016, 5, 826.	1.2	15
29	Globally Convergent Modification of the Quickprop Method. <i>Neural Processing Letters</i> , 2000, 12, 159-170.	3.2	12
30	Multimodal optimization using niching differential evolution with index-based neighborhoods. , 2012, , .		12
31	Musical Composer Identification through Probabilistic and Feedforward Neural Networks. <i>Lecture Notes in Computer Science</i> , 2010, , 411-420.	1.3	12
32	Existence and computation of short-run equilibria in economic geography. <i>Applied Mathematics and Computation</i> , 2007, 184, 93-103.	2.2	11
33	Parallelizing the Unsupervised k-Windows Clustering Algorithm. <i>Lecture Notes in Computer Science</i> , 2004, , 225-232.	1.3	11
34	Estimating the number of clusters using a windowing technique. <i>Pattern Recognition and Image Analysis</i> , 2006, 16, 143-154.	1.0	10
35	Evolutionary Operators in Global Optimization with Dynamic Search Trajectories. <i>Numerical Algorithms</i> , 2003, 34, 393-403.	1.9	9
36	Determining the number of real roots of polynomials through neural networks. <i>Computers and Mathematics With Applications</i> , 2006, 51, 527-536.	2.7	9

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37	Generalization of the Bolzano theorem for simplices. <i>Topology and Its Applications</i> , 2016, 202, 40-46.	0.4	9
38	Interactive Evolution of 8-bit Melodies with Genetic Programming towards Finding Aesthetic Measures for Sound. <i>Lecture Notes in Computer Science</i> , 2012, , 141-152.	1.3	9
39	<small>xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:struct-bib="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.co.</small> Intelligent Generation of Rhythmic Sequences Using Finite L-systems. , 2012, , .	2.0	8
40	Intelligent Generation of Rhythmic Sequences Using Finite L-systems. , 2012, , .		6
41	Content driven clustering algorithm combining density and distance functions. <i>Pattern Recognition</i> , 2019, 87, 190-202.	8.1	6
42	Aitken and Neville Inverse Interpolation Methods over Finite Fields. <i>Applied Numerical Analysis and Computational Mathematics</i> , 2005, 2, 100-107.	0.6	5
43	Novel orbit based symmetric cryptosystems. <i>Mathematical and Computer Modelling</i> , 2010, 51, 239-246.	2.0	5
44	Controlling interactive evolution of 8-bit melodies with genetic programming. <i>Soft Computing</i> , 2012, 16, 1997-2008.	3.6	5
45	Cell-nuclear data reduction and prognostic model selection in bladder tumor recurrence. <i>Artificial Intelligence in Medicine</i> , 2006, 38, 291-303.	6.5	4
46	Evaluation of PNN pattern-layer activation function approximations in different training setups. <i>International Journal of Speech Technology</i> , 2019, 22, 1039-1049.	2.2	4
47	Intermediate value theorem for simplices for simplicial approximation of fixed points and zeros. <i>Topology and Its Applications</i> , 2020, 275, 107036.	0.4	4
48	Parallel Unsupervised k-Windows: An Efficient Parallel Clustering Algorithm. <i>Lecture Notes in Computer Science</i> , 2003, , 336-344.	1.3	4
49	Application of efficient composite methods for computing with certainty periodic orbits in molecular systems. <i>Computer Physics Communications</i> , 2002, 148, 227-235.	7.5	3
50	Intelligent Real-Time Music Accompaniment for Constraint-Free Improvisation. , 2012, , .		3
51	CHAOS AND MUSIC: FROM TIME SERIES ANALYSIS TO EVOLUTIONARY COMPOSITION. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2013, 23, 1350181.	1.7	3
52	A chemical energy approach of avascular tumor growth: multiscale modeling and qualitative results. <i>SpringerPlus</i> , 2015, 4, 660.	1.2	3
53	Evaluating generalization through interval-based neural network inversion. <i>Neural Computing and Applications</i> , 2019, 31, 9241-9260.	5.6	3
54	Hybrid local boosting utilizing unlabeled data in classification tasks. <i>Evolving Systems</i> , 2019, 10, 51-61.	3.9	3

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55	Privacy preserving electronic data gathering. <i>Mathematical and Computer Modelling</i> , 2005, 42, 739-746.	2.0	2
56	Aitken and Neville inverse interpolation methods for the Lucas logarithm problem. <i>Applied Mathematics and Computation</i> , 2009, 209, 52-56.	2.2	2
57	Algorithm 987. <i>ACM Transactions on Mathematical Software</i> , 2018, 44, 1-7.	2.9	2
58	Dynamic search trajectory methods for global optimization. <i>Annals of Mathematics and Artificial Intelligence</i> , 2020, 88, 3-37.	1.3	2
59	Locating, characterizing and computing the stationary points of a function. <i>Reliable Computing</i> , 1996, 2, 187-193.	0.8	1
60	Intelligent Music Composition. , 2013, , 239-256.		1
61	Integrating global and local boosting. , 2015, , .		1
62	Particle Swarm Optimization for Computing Nash and Stackelberg Equilibria in Energy Markets. <i>SN Operations Research Forum</i> , 2020, 1, 1.	1.0	1
63	Expeditive Extensions of Evolutionary Bayesian Probabilistic Neural Networks. <i>Lecture Notes in Computer Science</i> , 2009, , 30-44.	1.3	1
64	Generalizations of the Intermediate Value Theorem for Approximating Fixed Points and Zeros of Continuous Functions. <i>Lecture Notes in Computer Science</i> , 2020, , 223-238.	1.3	1
65	Performance evaluation of clustering algorithms on microcalcifications as mammography findings. , 2013, , .		0
66	Preface [Special issue: NumAn 2014]. <i>Applied Numerical Mathematics</i> , 2016, 104, 99-102.	2.1	0
67	Computational insights on the molecular mechanisms across breast cancer progression combining gene differential expression and co-expression. , 2021, , .		0
68	Rotation forest of random subspace models. <i>Intelligent Decision Technologies</i> , 2022, , 1-10.	0.9	0