

Oscar Castillo

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

863
papers

14,767
citations

66
h-index

99
g-index

1,009
ext. papers

17,079
ext. citations

2
avg, IF

7.53
L-index

#	Paper	IF	Citations
863	A comparative study of type-1 fuzzy logic systems, interval type-2 fuzzy logic systems and generalized type-2 fuzzy logic systems in control problems. <i>Information Sciences</i> , 2016 , 354, 257-274	7.7	275
862	Optimization of interval type-2 fuzzy logic controllers for a perturbed autonomous wheeled mobile robot using genetic algorithms. <i>Information Sciences</i> , 2009 , 179, 2158-2174	7.7	260
861	A review on the design and optimization of interval type-2 fuzzy controllers. <i>Applied Soft Computing Journal</i> , 2012 , 12, 1267-1278	7.5	257
860	Path planning for autonomous mobile robot navigation with ant colony optimization and fuzzy cost function evaluation. <i>Applied Soft Computing Journal</i> , 2009 , 9, 1102-1110	7.5	253
859	Type-2 Fuzzy Logic: Theory and Applications. <i>Studies in Fuzziness and Soft Computing</i> , 2008 ,	0.7	231
858	A hybrid learning algorithm for a class of interval type-2 fuzzy neural networks. <i>Information Sciences</i> , 2009 , 179, 2175-2193	7.7	215
857	Generalized Type-2 Fuzzy Systems for controlling a mobile robot and a performance comparison with Interval Type-2 and Type-1 Fuzzy Systems. <i>Expert Systems With Applications</i> , 2015 , 42, 5904-5914	7.8	203
856	Comparative study of bio-inspired algorithms applied to the optimization of type-1 and type-2 fuzzy controllers for an autonomous mobile robot. <i>Information Sciences</i> , 2012 , 192, 19-38	7.7	202
855	Optimal design of fuzzy classification systems using PSO with dynamic parameter adaptation through fuzzy logic. <i>Expert Systems With Applications</i> , 2013 , 40, 3196-3206	7.8	195
854	Experimental study of intelligent controllers under uncertainty using type-1 and type-2 fuzzy logic. <i>Information Sciences</i> , 2007 , 177, 2023-2048	7.7	190
853	Edge-Detection Method for Image Processing Based on Generalized Type-2 Fuzzy Logic. <i>IEEE Transactions on Fuzzy Systems</i> , 2014 , 22, 1515-1525	8.3	180
852	A generalized type-2 fuzzy granular approach with applications to aerospace. <i>Information Sciences</i> , 2016 , 354, 165-177	7.7	178
851	A review on type-2 fuzzy logic applications in clustering, classification and pattern recognition. <i>Applied Soft Computing Journal</i> , 2014 , 21, 568-577	7.5	174
850	A review on interval type-2 fuzzy logic applications in intelligent control. <i>Information Sciences</i> , 2014 , 279, 615-631	7.7	172
849	An improved evolutionary method with fuzzy logic for combining Particle Swarm Optimization and Genetic Algorithms. <i>Applied Soft Computing Journal</i> , 2011 , 11, 2625-2632	7.5	162
848	Optimization of type-2 fuzzy systems based on bio-inspired methods: A concise review. <i>Information Sciences</i> , 2012 , 205, 1-19	7.7	140
847	Type-2 fuzzy logic aggregation of multiple fuzzy controllers for airplane flight control. <i>Information Sciences</i> , 2015 , 324, 247-256	7.7	138

846	A new approach for dynamic fuzzy logic parameter tuning in Ant Colony Optimization and its application in fuzzy control of a mobile robot. <i>Applied Soft Computing Journal</i> , 2015 , 28, 150-159	7.5	133
845	A fuzzy hierarchical operator in the grey wolf optimizer algorithm. <i>Applied Soft Computing Journal</i> , 2017 , 57, 315-328	7.5	131
844	Information granule formation via the concept of uncertainty-based information with Interval Type-2 Fuzzy Sets representation and TakagiSugenoKang consequents optimized with Cuckoo search. <i>Applied Soft Computing Journal</i> , 2015 , 27, 602-609	7.5	126
843	Hybrid intelligent systems for time series prediction using neural networks, fuzzy logic, and fractal theory. <i>IEEE Transactions on Neural Networks</i> , 2002 , 13, 1395-408		126
842	A new approach for time series prediction using ensembles of ANFIS models. <i>Expert Systems With Applications</i> , 2012 , 39, 3494-3506	7.8	125
841	Ant colony optimization with dynamic parameter adaptation based on interval type-2 fuzzy logic systems. <i>Applied Soft Computing Journal</i> , 2017 , 53, 74-87	7.5	123
840	Particle swarm optimization of interval type-2 fuzzy systems for FPGA applications. <i>Applied Soft Computing Journal</i> , 2013 , 13, 496-508	7.5	121
839	An improved sobel edge detection method based on generalized type-2 fuzzy logic. <i>Soft Computing</i> , 2016 , 20, 773-784	3.5	120
838	Optimization of modular granular neural networks using a firefly algorithm for human recognition. <i>Engineering Applications of Artificial Intelligence</i> , 2017 , 64, 172-186	7.2	116
837	Optimization of interval type-2 fuzzy systems for image edge detection. <i>Applied Soft Computing Journal</i> , 2016 , 47, 631-643	7.5	113
836	An improved method for edge detection based on interval type-2 fuzzy logic. <i>Expert Systems With Applications</i> , 2010 , 37, 8527-8535	7.8	113
835	Optimal design of type-2 and type-1 fuzzy tracking controllers for autonomous mobile robots under perturbed torques using a new chemical optimization paradigm. <i>Expert Systems With Applications</i> , 2013 , 40, 3185-3195	7.8	112
834	A review on the applications of type-2 fuzzy logic in classification and pattern recognition. <i>Expert Systems With Applications</i> , 2013 , 40, 5413-5423	7.8	111
833	An optimization method for designing type-2 fuzzy inference systems based on the footprint of uncertainty using genetic algorithms. <i>Expert Systems With Applications</i> , 2012 , 39, 4590-4598	7.8	109
832	Optimization of fuzzy controller design using a new bee colony algorithm with fuzzy dynamic parameter adaptation. <i>Applied Soft Computing Journal</i> , 2016 , 43, 131-142	7.5	105
831	Optimization of type-2 fuzzy weights in backpropagation learning for neural networks using GAs and PSO. <i>Applied Soft Computing Journal</i> , 2016 , 38, 860-871	7.5	104
830	Optimization of interval type-2 fuzzy logic controllers using evolutionary algorithms. <i>Soft Computing</i> , 2011 , 15, 1145-1160	3.5	102
829	Interval type-2 fuzzy weight adjustment for backpropagation neural networks with application in time series prediction. <i>Information Sciences</i> , 2014 , 260, 1-14	7.7	100

828	Fuzzy granular gravitational clustering algorithm for multivariate data. <i>Information Sciences</i> , 2014 , 279, 498-511	7.7	100
827	Design of interval type-2 fuzzy models through optimal granularity allocation. <i>Applied Soft Computing Journal</i> , 2011 , 11, 5590-5601	7.5	99
826	Designing Type-1 and Type-2 Fuzzy Logic Controllers via Fuzzy Lyapunov Synthesis for nonsmooth mechanical systems. <i>Engineering Applications of Artificial Intelligence</i> , 2012 , 25, 971-979	7.2	98
825	A survey on nature-inspired optimization algorithms with fuzzy logic for dynamic parameter adaptation. <i>Expert Systems With Applications</i> , 2014 , 41, 6459-6466	7.8	97
824	Dynamic parameter adaptation in particle swarm optimization using interval type-2 fuzzy logic. <i>Soft Computing</i> , 2016 , 20, 1057-1070	3.5	93
823	High order \mathbb{H} planes integration: A new approach to computational cost reduction of General Type-2 Fuzzy Systems. <i>Engineering Applications of Artificial Intelligence</i> , 2018 , 74, 186-197	7.2	93
822	A new neural network model based on the LVQ algorithm for multi-class classification of arrhythmias. <i>Information Sciences</i> , 2014 , 279, 483-497	7.7	93
821	A generalized type-2 fuzzy logic approach for dynamic parameter adaptation in bee colony optimization applied to fuzzy controller design. <i>Information Sciences</i> , 2018 , 460-461, 476-496	7.7	92
820	Face Recognition With an Improved Interval Type-2 Fuzzy Logic Sugeno Integral and Modular Neural Networks. <i>IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans</i> , 2011 , 41, 1001-1012		92
819	Interval type-2 fuzzy logic for dynamic parameter adaptation in a modified gravitational search algorithm. <i>Information Sciences</i> , 2019 , 476, 159-175	7.7	92
818	Genetic optimization of modular neural networks with fuzzy response integration for human recognition. <i>Information Sciences</i> , 2012 , 197, 1-19	7.7	91
817	Hybrid Intelligent Systems for Pattern Recognition Using Soft Computing. <i>Studies in Fuzziness and Soft Computing</i> , 2005 ,	0.7	89
816	Multiple Ensemble Neural Network Models with Fuzzy Response Aggregation for Predicting COVID-19 Time Series: The Case of Mexico. <i>Healthcare (Switzerland)</i> , 2020 , 8,	3.4	88
815	Particle swarm optimization of ensemble neural networks with fuzzy aggregation for time series prediction of the Mexican Stock Exchange. <i>Information Sciences</i> , 2014 , 280, 188-204	7.7	86
814	Multiple Objective Genetic Algorithms for Path-planning Optimization in Autonomous Mobile Robots. <i>Soft Computing</i> , 2006 , 11, 269-279	3.5	84
813	Simulation of the bird age-structured population growth based on an interval type-2 fuzzy cellular structure. <i>Information Sciences</i> , 2011 , 181, 519-535	7.7	80
812	Fuzzy logic control with genetic membership function parameters optimization for the output regulation of a servomechanism with nonlinear backlash. <i>Expert Systems With Applications</i> , 2010 , 37, 4368-4378	7.8	80
811	Embedding a high speed interval type-2 fuzzy controller for a real plant into an FPGA. <i>Applied Soft Computing Journal</i> , 2012 , 12, 988-998	7.5	78

810	Hybrid intelligent system for cardiac arrhythmia classification with Fuzzy K-Nearest Neighbors and neural networks combined with a fuzzy system. <i>Expert Systems With Applications</i> , 2012 , 39, 2947-2955	7.8	77
809	Intelligent control of complex electrochemical systems with a neuro-fuzzy-genetic approach. <i>IEEE Transactions on Industrial Electronics</i> , 2001 , 48, 951-955	8.9	77
808	Application of interval type-2 fuzzy neural networks in non-linear identification and time series prediction. <i>Soft Computing</i> , 2014 , 18, 1213-1224	3.5	75
807	Analysis of Spatial Spread Relationships of Coronavirus (COVID-19) Pandemic in the World using Self Organizing Maps. <i>Chaos, Solitons and Fractals</i> , 2020 , 138, 109917	9.3	74
806	Adaptive intelligent control of aircraft systems with a hybrid approach combining neural networks, fuzzy logic and fractal theory. <i>Applied Soft Computing Journal</i> , 2003 , 3, 353-362	7.5	74
805	Interval type-2 fuzzy logic and modular neural networks for face recognition applications. <i>Applied Soft Computing Journal</i> , 2009 , 9, 1377-1387	7.5	73
804	Systematic design of a stable type-2 fuzzy logic controller. <i>Applied Soft Computing Journal</i> , 2008 , 8, 1274-1279	7.3	72
803	A new multi-stable fractional-order four-dimensional system with self-excited and hidden chaotic attractors: Dynamic analysis and adaptive synchronization using a novel fuzzy adaptive sliding mode control method. <i>Applied Soft Computing Journal</i> , 2020 , 87, 105943	7.5	72
802	Modular Neural Networks architecture optimization with a new nature inspired method using a fuzzy combination of Particle Swarm Optimization and Genetic Algorithms. <i>Information Sciences</i> , 2014 , 270, 143-153	7.7	71
801	Type-1 and type-2 fuzzy inference systems as integration methods in modular neural networks for multimodal biometry and its optimization with genetic algorithms. <i>Information Sciences</i> , 2009 , 179, 2123-2145	7.7	70
800	An intelligent hybrid approach for industrial quality control combining neural networks, fuzzy logic and fractal theory. <i>Information Sciences</i> , 2007 , 177, 1543-1557	7.7	69
799	Intelligent control of a stepping motor drive using a hybrid neuro-fuzzy ANFIS approach. <i>Applied Soft Computing Journal</i> , 2003 , 3, 209-219	7.5	69
798	Soft Computing for Control of Non-Linear Dynamical Systems. <i>Studies in Fuzziness and Soft Computing</i> , 2001 ,	0.7	69
797	An Interval Type-2 Fuzzy Logic Toolbox for Control Applications. <i>IEEE International Conference on Fuzzy Systems</i> , 2007 ,		66
796	A comprehensive review on type 2 fuzzy logic applications: Past, present and future. <i>Engineering Applications of Artificial Intelligence</i> , 2020 , 95, 103916	7.2	66
795	A hybrid modular neural network architecture with fuzzy Sugeno integration for time series forecasting. <i>Applied Soft Computing Journal</i> , 2007 , 7, 1217-1226	7.5	65
794	Human evolutionary model: A new approach to optimization. <i>Information Sciences</i> , 2007 , 177, 2075-2098	7.7	62
793	An Efficient Computational Method to Implement Type-2 Fuzzy Logic in Control Applications 2007 , 45-52		62

792	A New Method for Adaptive Control of Non-Linear Plants Using Type-2 Fuzzy Logic and Neural Networks. <i>International Journal of General Systems</i> , 2004 , 33, 289-304	2.1	62
791	Intelligent adaptive model-based control of robotic dynamic systems with a hybrid fuzzy-neural approach. <i>Applied Soft Computing Journal</i> , 2003 , 3, 363-378	7.5	61
790	A Grey Wolf Optimizer for Modular Granular Neural Networks for Human Recognition. <i>Computational Intelligence and Neuroscience</i> , 2017 , 2017, 4180510	3	60
789	A new gravitational search algorithm using fuzzy logic to parameter adaptation 2013 ,		60
788	Comparative study of the use of fuzzy logic in improving particle swarm optimization variants for mathematical functions using co-evolution. <i>Applied Soft Computing Journal</i> , 2017 , 52, 1070-1083	7.5	60
787	Fuzzy higher type information granules from an uncertainty measurement. <i>Granular Computing</i> , 2017 , 2, 95-103	5.4	57
786	Intelligent control of a stepping motor drive using an adaptive neuro-fuzzy inference system. <i>Information Sciences</i> , 2005 , 170, 133-151	7.7	56
785	Forecasting of COVID-19 time series for countries in the world based on a hybrid approach combining the fractal dimension and fuzzy logic. <i>Chaos, Solitons and Fractals</i> , 2020 , 140, 110242	9.3	56
784	An Extension of the Fuzzy Possibilistic Clustering Algorithm Using Type-2 Fuzzy Logic Techniques. <i>Advances in Fuzzy Systems</i> , 2017 , 2017, 1-23	1.7	55
783	Evolutionary method combining particle swarm optimization and genetic algorithms using fuzzy logic for decision making 2009 ,		55
782	Comparative analysis of noise robustness of type 2 fuzzy logic controllers. <i>Kybernetika</i> , 175-201		55
781	A new fuzzy bee colony optimization with dynamic adaptation of parameters using interval type-2 fuzzy logic for tuning fuzzy controllers. <i>Soft Computing</i> , 2018 , 22, 571-594	3.5	54
780	New approach using ant colony optimization with ant set partition for fuzzy control design applied to the ball and beam system. <i>Information Sciences</i> , 2015 , 294, 203-215	7.7	53
779	Comparative study of interval Type-2 and general Type-2 fuzzy systems in medical diagnosis. <i>Information Sciences</i> , 2020 , 525, 37-53	7.7	52
778	2007 ,		51
777	Fuzzy Sets in Dynamic Adaptation of Parameters of a Bee Colony Optimization for Controlling the Trajectory of an Autonomous Mobile Robot. <i>Sensors</i> , 2016 , 16,	3.8	51
776	Finite-interval-valued Type-2 Gaussian fuzzy numbers applied to fuzzy TODIM in a healthcare problem. <i>Engineering Applications of Artificial Intelligence</i> , 2020 , 87, 103352	7.2	50
775	Type-1 and Type-2 fuzzy logic controller design using a Hybrid PSOGA optimization method. <i>Information Sciences</i> , 2014 , 285, 35-49	7.7	49

774	Type-2 Fuzzy Logic in Intelligent Control Applications. <i>Studies in Fuzziness and Soft Computing</i> , 2012	0.7	49
773	Early diagnosis of COVID-19-affected patients based on X-ray and computed tomography images using deep learning algorithm. <i>Soft Computing</i> , 2020 , 1-9	3.5	49
772	A novel multi-objective evolutionary algorithm with fuzzy logic based adaptive selection of operators: FAME. <i>Information Sciences</i> , 2019 , 471, 233-251	7.7	49
771	A hybrid optimization method with PSO and GA to automatically design Type-1 and Type-2 fuzzy logic controllers. <i>International Journal of Machine Learning and Cybernetics</i> , 2015 , 6, 175-196	3.8	48
770	Design of an interval Type-2 fuzzy model with justifiable uncertainty. <i>Information Sciences</i> , 2020 , 513, 206-221	7.7	47
769	A New Fuzzy Harmony Search Algorithm Using Fuzzy Logic for Dynamic Parameter Adaptation. <i>Algorithms</i> , 2016 , 9, 69	1.8	47
768	Dynamic Fuzzy Logic Parameter Tuning for ACO and Its Application in TSP Problems. <i>Studies in Computational Intelligence</i> , 2013 , 259-271	0.8	46
767	A New Approach for Time Series Prediction Using Ensembles of IT2FNN Models with Optimization of Fuzzy Integrators. <i>International Journal of Fuzzy Systems</i> , 2018 , 20, 701-728	3.6	45
766	New Methodology to Approximate Type-Reduction Based on a Continuous Root-Finding Karnik Mendel Algorithm. <i>Algorithms</i> , 2017 , 10, 77	1.8	45
765	Time series prediction using ensembles of ANFIS models with genetic optimization of interval type-2 and type-1 fuzzy integrators. <i>International Journal of Hybrid Intelligent Systems</i> , 2014 , 11, 211-226 ^{0.9}	0.9	45
764	An intuitionistic fuzzy system for time series analysis in plant monitoring and diagnosis. <i>Applied Soft Computing Journal</i> , 2007 , 7, 1227-1233	7.5	45
763	Generalized type-2 fuzzy weight adjustment for backpropagation neural networks in time series prediction. <i>Information Sciences</i> , 2015 , 325, 159-174	7.7	44
762	Comparative Study of Type-2 Fuzzy Particle Swarm, Bee Colony and Bat Algorithms in Optimization of Fuzzy Controllers. <i>Algorithms</i> , 2017 , 10, 101	1.8	44
761	Review of Recent Type-2 Fuzzy Controller Applications. <i>Algorithms</i> , 2016 , 9, 39	1.8	44
760	An approach for parameterized shadowed type-2 fuzzy membership functions applied in control applications. <i>Soft Computing</i> , 2019 , 23, 3887-3901	3.5	44
759	Comparison of particle swarm optimization variants with fuzzy dynamic parameter adaptation for modular granular neural networks for human recognition. <i>Journal of Intelligent and Fuzzy Systems</i> , 2020 , 38, 3229-3252	1.6	43
758	Optimization of modular granular neural networks using a hierarchical genetic algorithm based on the database complexity applied to human recognition. <i>Information Sciences</i> , 2015 , 309, 73-101	7.7	42
757	A high-speed interval type 2 fuzzy system approach for dynamic parameter adaptation in metaheuristics. <i>Engineering Applications of Artificial Intelligence</i> , 2019 , 85, 666-680	7.2	39

756	Comparative Study in Fuzzy Controller Optimization Using Bee Colony, Differential Evolution, and Harmony Search Algorithms. <i>Algorithms</i> , 2019 , 12, 9	1.8	39
755	A New Approach to Multiple Time Series Prediction Using MIMO Fuzzy Aggregation Models with Modular Neural Networks. <i>International Journal of Fuzzy Systems</i> , 2019 , 21, 1629-1648	3.6	39
754	2007 ,		39
753	Soft Computing and Fractal Theory for Intelligent Manufacturing. <i>Studies in Fuzziness and Soft Computing</i> , 2003 ,	0.7	39
752	Hierarchical genetic algorithms for topology optimization in fuzzy control systems. <i>International Journal of General Systems</i> , 2007 , 36, 575-591	2.1	37
751	Interval type-2 fuzzy logic for dynamic parameter adaptation in the bat algorithm. <i>Soft Computing</i> , 2017 , 21, 667-685	3.5	36
750	Imperialist Competitive Algorithm with Dynamic Parameter Adaptation Using Fuzzy Logic Applied to the Optimization of Mathematical Functions. <i>Algorithms</i> , 2017 , 10, 18	1.8	36
749	Building Fuzzy Inference Systems with a New Interval Type-2 Fuzzy Logic Toolbox 2008 , 104-114		36
748	Designing a general type-2 fuzzy expert system for diagnosis of depression. <i>Applied Soft Computing Journal</i> , 2019 , 80, 329-341	7.5	33
747	A Hybrid Approach for Modular Neural Network Design Using Intercriteria Analysis and Intuitionistic Fuzzy Logic. <i>Complexity</i> , 2018 , 2018, 1-11	1.6	32
746	Optimal design of interval type 2 fuzzy controllers based on a simple tuning algorithm. <i>Applied Soft Computing Journal</i> , 2014 , 23, 270-285	7.5	32
745	Building Fuzzy Inference Systems with the Interval Type-2 Fuzzy Logic Toolbox 2007 , 53-62		32
744	Optimization of fuzzy controller design using a Differential Evolution algorithm with dynamic parameter adaptation based on Type-1 and Interval Type-2 fuzzy systems. <i>Soft Computing</i> , 2020 , 24, 193-214	3.5	32
743	ClusFuDE: Forecasting low dimensional numerical data using an improved method based on automatic clustering, fuzzy relationships and differential evolution. <i>Engineering Applications of Artificial Intelligence</i> , 2018 , 71, 175-189	7.2	31
742	Review of Recent Type-2 Fuzzy Image Processing Applications. <i>Information (Switzerland)</i> , 2017 , 8, 97	2.6	31
741	A New Meta-Heuristics of Optimization with Dynamic Adaptation of Parameters Using Type-2 Fuzzy Logic for Trajectory Control of a Mobile Robot. <i>Algorithms</i> , 2017 , 10, 85	1.8	30
740	Modelling, Simulation and Control of Non-Linear Dynamical Systems		30
739	A state of the art review of intelligent scheduling. <i>Artificial Intelligence Review</i> , 2020 , 53, 501-593	9.7	30

738	Optimization of Type-2 Fuzzy Logic Controller Design Using the GSO and FA Algorithms. <i>International Journal of Fuzzy Systems</i> , 2021 , 23, 42-57	3.6	30
737	Fuzzy Dynamic Parameter Adaptation in the Harmony Search Algorithm for the Optimization of the Ball and Beam Controller. <i>Advances in Operations Research</i> , 2018 , 2018, 1-16	1.3	29
736	Ant colony test center for planning autonomous mobile robot navigation. <i>Computer Applications in Engineering Education</i> , 2013 , 21, 214-229	1.6	29
735	Interval Type-2 TSK Fuzzy Logic Systems Using Hybrid Learning Algorithm		29
734	Shadowed Type-2 Fuzzy Systems for Dynamic Parameter Adaptation in Harmony Search and Differential Evolution Algorithms. <i>Algorithms</i> , 2019 , 12, 17	1.8	28
733	Dynamic Fuzzy Logic Parameter Tuning for ACO and Its Application in the Fuzzy Logic Control of an Autonomous Mobile Robot. <i>International Journal of Advanced Robotic Systems</i> , 2013 , 10, 51	1.4	26
732	Grey wolf optimizer with dynamic adaptation of parameters using fuzzy logic 2016 ,		26
731	Fuzzy rule-based models with interactive rules and their granular generalization. <i>Fuzzy Sets and Systems</i> , 2017 , 307, 1-28	3.7	25
730	Optimization of Fuzzy Controller Using Galactic Swarm Optimization with Type-2 Fuzzy Dynamic Parameter Adjustment. <i>Axioms</i> , 2019 , 8, 26	1.6	25
729	A multi-objective optimization of type-2 fuzzy control speed in FPGAs. <i>Applied Soft Computing Journal</i> , 2014 , 24, 1164-1174	7.5	25
728	Generation of walking periodic motions for a biped robot via genetic algorithms. <i>Applied Soft Computing Journal</i> , 2011 , 11, 5306-5314	7.5	25
727	Synchronization of fractional time-delayed financial system using a novel type-2 fuzzy active control method. <i>Chaos, Solitons and Fractals</i> , 2020 , 136, 109768	9.3	25
726	3 Type-2 Fuzzy Logic. <i>Studies in Fuzziness and Soft Computing</i> , 2007 , 29-43	0.7	24
725	Face recognition using modular neural networks and the fuzzy Sugeno integral for response integration. <i>International Journal of Intelligent Systems</i> , 2005 , 20, 275-291	8.4	24
724	A Novel Method for a COVID-19 Classification of Countries Based on an Intelligent Fuzzy Fractal Approach. <i>Healthcare (Switzerland)</i> , 2021 , 9,	3.4	24
723	A hybrid learning method composed by the orthogonal least-squares and the back-propagation learning algorithms for interval A2-C1 type-1 non-singleton type-2 TSK fuzzy logic systems. <i>Soft Computing</i> , 2015 , 19, 661-678	3.5	23
722	A new optimization meta-heuristic algorithm based on self-defense mechanism of the plants with three reproduction operators. <i>Soft Computing</i> , 2018 , 22, 4907-4920	3.5	23
721	Fuzzy dynamic parameters adaptation in the Cuckoo Search Algorithm using fuzzy logic 2015 ,		23

720	A cognitive map and fuzzy inference engine model for online design and self fine-tuning of fuzzy logic controllers. <i>International Journal of Intelligent Systems</i> , 2009 , 24, 1134-1173	8.4	23
719	A new approach for plant monitoring using type-2 fuzzy logic and fractal theory. <i>International Journal of General Systems</i> , 2004 , 33, 305-319	2.1	23
718	Design of a Fuzzy System for the Longitudinal Control of an F-14 Airplane. <i>Studies in Computational Intelligence</i> , 2010 , 213-224	0.8	22
717	A new method for adaptive model-based control of non-linear dynamic plants using a neuro-fuzzy-fractal approach. <i>Soft Computing</i> , 2001 , 5, 171-177	3.5	22
716	Differential Evolution with Dynamic Adaptation of Parameters for the Optimization of Fuzzy Controllers. <i>Studies in Computational Intelligence</i> , 2014 , 275-288	0.8	22
715	Simulation and forecasting complex financial time series using neural networks and fuzzy logic		21
714	Intelligent control of dynamic systems using type-2 fuzzy logic and stability issues. <i>International Mathematical Forum</i> , 1371-1382	4.6	21
713	A novel parameter estimation in dynamic model via fuzzy swarm intelligence and chaos theory for faults in wastewater treatment plant. <i>Soft Computing</i> , 2020 , 24, 111-129	3.5	21
712	Fuzzy Logic in Dynamic Parameter Adaptation of Harmony Search Optimization for Benchmark Functions and Fuzzy Controllers. <i>International Journal of Fuzzy Systems</i> , 2020 , 22, 1198-1211	3.6	20
711	The evolutionary learning rule for system identification. <i>Applied Soft Computing Journal</i> , 2003 , 3, 343-352	7.5	20
710	A New Biometric Recognition Technique Based on Hand Geometry and Voice Using Neural Networks and Fuzzy Logic. <i>Studies in Computational Intelligence</i> , 2008 , 171-186	0.8	20
709	A Novel Fractional-Order Multiple-Model Type-3 Fuzzy Control for Nonlinear Systems with Unmodeled Dynamics. <i>International Journal of Fuzzy Systems</i> , 2021 , 23, 1633	3.6	20
708	Optimization of granulation for fuzzy controllers of autonomous mobile robots using the Firefly Algorithm. <i>Granular Computing</i> , 2019 , 4, 185-195	5.4	19
707	Fuzzy control of parameters to dynamically adapt the PSO and GA Algorithms 2010 ,		19
706	A new fuzzy-fractal-genetic method for automated mathematical modelling and simulation of robotic dynamic systems		19
705	DEVELOPING A NEW METHOD FOR THE IDENTIFICATION OF MICROORGANISMS FOR THE FOOD INDUSTRY USING THE FRACTAL DIMENSION. <i>Fractals</i> , 1994 , 02, 457-460	3.2	19
704	An Interval Type-2 Fuzzy Neural Network for Chaotic Time Series Prediction with Cross-Validation and Akaike Test. <i>Studies in Computational Intelligence</i> , 2010 , 269-285	0.8	19
703	A New Hybridization Approach between the Fireworks Algorithm and Grey Wolf Optimizer Algorithm. <i>Journal of Optimization</i> , 2018 , 2018, 1-18	0.5	18

702	Genetic Algorithm Optimization for Type-2 Non-singleton Fuzzy Logic Controllers. <i>Studies in Computational Intelligence</i> , 2014 , 3-18	0.8	18
701	Genetic optimization of ensemble neural networks for complex time series prediction 2011 ,		18
700	Type-2 Fuzzy Logic for Improving Training Data and Response Integration in Modular Neural Networks for Image Recognition. <i>Lecture Notes in Computer Science</i> , 2007 , 604-612	0.9	18
699	Evolutionary computing for optimizing type-2 fuzzy systems in intelligent control of non-linear dynamic plants		18
698	Statistical Analysis of Type-1 and Interval Type-2 Fuzzy Logic in dynamic parameter adaptation of the BCO		18
697	Type-1 and Type-2 Fuzzy Inference Systems as Integration Methods in Modular Neural Networks for Multimodal Biometry and Its Optimization with Genetic Algorithms. <i>Studies in Computational Intelligence</i> , 2008 , 89-114	0.8	18
696	Bio-inspired Optimization Methods on Graphic Processing Unit for Minimization of Complex Mathematical Functions. <i>Studies in Computational Intelligence</i> , 2013 , 313-322	0.8	18
695	Cuckoo search algorithm for the optimization of type-2 fuzzy image edge detection systems 2015 ,		17
694	Modification of the Bat Algorithm using fuzzy logic for dynamical parameter adaptation 2015 ,		17
693	Finishing mill strip gage setup and control by interval type-1 non-singleton type-2 fuzzy logic systems. <i>Applied Soft Computing Journal</i> , 2014 , 24, 900-911	7.5	17
692	A Method to Solve the Traveling Salesman Problem Using Ant Colony Optimization Variants with Ant Set Partitioning. <i>Studies in Computational Intelligence</i> , 2013 , 237-246	0.8	17
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