

# Jesus Alcalá-Fdez

## List of Publications by Citations

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119  
papers

7,554  
citations

35  
h-index

86  
g-index

127  
ext. papers

9,771  
ext. citations

5  
avg, IF

6.42  
L-index

#	Paper	IF	Citations
119	A study on the use of non-parametric tests for analyzing the evolutionary algorithms behaviour: a case study on the CEC2005 Special Session on Real Parameter Optimization. <i>Journal of Heuristics</i> , <b>2009</b> , 15, 617-644	1.9	1223
118	Explainable Artificial Intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI. <i>Information Fusion</i> , <b>2020</b> , 58, 82-115	16.7	1210
117	KEEL: a software tool to assess evolutionary algorithms for data mining problems. <i>Soft Computing</i> , <b>2009</b> , 13, 307-318	3.5	896
116	. <i>IEEE Transactions on Knowledge and Data Engineering</i> , <b>2013</b> , 25, 734-750	4.2	284
115	Data Preprocessing in Data Mining. <i>Intelligent Systems Reference Library</i> , <b>2015</b> ,	0.8	270
114	Self-labeled techniques for semi-supervised learning: taxonomy, software and empirical study. <i>Knowledge and Information Systems</i> , <b>2015</b> , 42, 245-284	2.4	236
113	Evolutionary undersampling for classification with imbalanced datasets: proposals and taxonomy. <i>Evolutionary Computation</i> , <b>2009</b> , 17, 275-306	4.3	230
112	A consistency-based procedure to estimate missing pairwise preference values. <i>International Journal of Intelligent Systems</i> , <b>2008</b> , 23, 155-175	8.4	218
111	A Fuzzy Association Rule-Based Classification Model for High-Dimensional Problems With Genetic Rule Selection and Lateral Tuning. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2011</b> , 19, 857-872	8.3	203
110	A Taxonomy and Experimental Study on Prototype Generation for Nearest Neighbor Classification. <i>IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews</i> , <b>2012</b> , 42, 86-100		171
109	A Proposal for the Genetic Lateral Tuning of Linguistic Fuzzy Systems and Its Interaction With Rule Selection. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2007</b> , 15, 616-635	8.3	136
108	On the choice of the best imputation methods for missing values considering three groups of classification methods. <i>Knowledge and Information Systems</i> , <b>2012</b> , 32, 77-108	2.4	132
107	Learning the membership function contexts for mining fuzzy association rules by using genetic algorithms. <i>Fuzzy Sets and Systems</i> , <b>2009</b> , 160, 905-921	3.7	129
106	KEEL 3.0: An Open Source Software for Multi-Stage Analysis in Data Mining. <i>International Journal of Computational Intelligence Systems</i> , <b>2017</b> , 10, 1238	3.4	122
105	Addressing data complexity for imbalanced data sets: analysis of SMOTE-based oversampling and evolutionary undersampling. <i>Soft Computing</i> , <b>2011</b> , 15, 1909-1936	3.5	109
104	jFuzzyLogic: a Java Library to Design Fuzzy Logic Controllers According to the Standard for Fuzzy Control Programming. <i>International Journal of Computational Intelligence Systems</i> , <b>2013</b> , 6, 61-75	3.4	106
103	Genetics-Based Machine Learning for Rule Induction: State of the Art, Taxonomy, and Comparative Study. <i>IEEE Transactions on Evolutionary Computation</i> , <b>2010</b> , 14, 913-941	15.6	106

102	A MULTI-OBJECTIVE GENETIC ALGORITHM FOR TUNING AND RULE SELECTION TO OBTAIN ACCURATE AND COMPACT LINGUISTIC FUZZY RULE-BASED SYSTEMS. <i>International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems</i> , <b>2007</b> , 15, 539-557	0.8	92
101	Genetic learning of accurate and compact fuzzy rule based systems based on the 2-tuples linguistic representation. <i>International Journal of Approximate Reasoning</i> , <b>2007</b> , 44, 45-64	3.6	88
100	Dynamic ensemble selection for multi-class imbalanced datasets. <i>Information Sciences</i> , <b>2018</b> , 445-446, 22-37	7.7	80
99	jFuzzyLogic: a robust and flexible Fuzzy-Logic inference system language implementation <b>2012</b> ,		78
98	Hybrid learning models to get the interpretability-accuracy trade-off in fuzzy modeling. <i>Soft Computing</i> , <b>2006</b> , 10, 717-734	3.5	71
97	Data discretization: taxonomy and big data challenge. <i>Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery</i> , <b>2016</b> , 6, 5-21	6.9	71
96	A New Multiobjective Evolutionary Algorithm for Mining a Reduced Set of Interesting Positive and Negative Quantitative Association Rules. <i>IEEE Transactions on Evolutionary Computation</i> , <b>2014</b> , 18, 54-69	15.6	64
95	NICGAR: A Niching Genetic Algorithm to mine a diverse set of interesting quantitative association rules. <i>Information Sciences</i> , <b>2016</b> , 355-356, 208-228	7.7	60
94	A Survey of Fuzzy Systems Software: Taxonomy, Current Research Trends, and Prospects. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2016</b> , 24, 40-56	8.3	55
93	Evolutionary fuzzy k-nearest neighbors algorithm using interval-valued fuzzy sets. <i>Information Sciences</i> , <b>2016</b> , 329, 144-163	7.7	53
92	QAR-CIP-NSGA-II: A new multi-objective evolutionary algorithm to mine quantitative association rules. <i>Information Sciences</i> , <b>2014</b> , 258, 1-28	7.7	49
91	A practical tutorial on bagging and boosting based ensembles for machine learning: Algorithms, software tools, performance study, practical perspectives and opportunities. <i>Information Fusion</i> , <b>2020</b> , 64, 205-237	16.7	46
90	On the use of convolutional neural networks for robust classification of multiple fingerprint captures. <i>International Journal of Intelligent Systems</i> , <b>2018</b> , 33, 213-230	8.4	44
89	Improving fuzzy logic controllers obtained by experts: a case study in HVAC systems. <i>Applied Intelligence</i> , <b>2009</b> , 31, 15-30	4.9	39
88	Local identification of prototypes for genetic learning of accurate TSK fuzzy rule-based systems. <i>International Journal of Intelligent Systems</i> , <b>2007</b> , 22, 909-941	8.4	39
87	Rule Base Reduction and Genetic Tuning of Fuzzy Systems Based on the Linguistic 3-tuples Representation. <i>Soft Computing</i> , <b>2006</b> , 11, 401-419	3.5	39
86	Nearest Neighbor Classification for High-Speed Big Data Streams Using Spark. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , <b>2017</b> , 47, 2727-2739	7.3	38
85	Increasing fuzzy rules cooperation based on evolutionary adaptive inference systems. <i>International Journal of Intelligent Systems</i> , <b>2007</b> , 22, 1035-1064	8.4	38

84	Transforming big data into smart data: An insight on the use of the k-nearest neighbors algorithm to obtain quality data. <i>Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery</i> , <b>2019</b> , 9, e1289	6.9	30
83	Evolutionary Fuzzy Rule-Based Methods for Monotonic Classification. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2017</b> , 25, 1376-1390	8.3	29
82	Monotonic Random Forest with an Ensemble Pruning Mechanism based on the Degree of Monotonicity. <i>New Generation Computing</i> , <b>2015</b> , 33, 367-388	0.9	29
81	A tutorial on distance metric learning: Mathematical foundations, algorithms, experimental analysis, prospects and challenges. <i>Neurocomputing</i> , <b>2021</b> , 425, 300-322	5.4	29
80	Imbalance: Oversampling algorithms for imbalanced classification in R. <i>Knowledge-Based Systems</i> , <b>2018</b> , 161, 329-341	7.3	29
79	Stratified prototype selection based on a steady-state memetic algorithm: a study of scalability. <i>Memetic Computing</i> , <b>2010</b> , 2, 183-199	3.4	28
78	Genetic learning of the membership functions for mining fuzzy association rules from low quality data. <i>Information Sciences</i> , <b>2015</b> , 295, 358-378	7.7	25
77	Monotonic classification: An overview on algorithms, performance measures and data sets. <i>Neurocomputing</i> , <b>2019</b> , 341, 168-182	5.4	24
76	A snapshot on nonstandard supervised learning problems: taxonomy, relationships, problem transformations and algorithm adaptations. <i>Progress in Artificial Intelligence</i> , <b>2019</b> , 8, 1-14	4	23
75	JFML: A Java Library to Design Fuzzy Logic Systems According to the IEEE Std 1855-2016. <i>IEEE Access</i> , <b>2018</b> , 6, 54952-54964	3.5	22
74	MRQAR: A generic MapReduce framework to discover quantitative association rules in big data problems. <i>Knowledge-Based Systems</i> , <b>2018</b> , 153, 176-192	7.3	21
73	DRCW-ASEG: One-versus-One distance-based relative competence weighting with adaptive synthetic example generation for multi-class imbalanced datasets. <i>Neurocomputing</i> , <b>2018</b> , 285, 176-187	5.4	20
72	eXplainable Artificial Intelligence (XAI) for the identification of biologically relevant gene expression patterns in longitudinal human studies, insights from obesity research. <i>PLoS Computational Biology</i> , <b>2020</b> , 16, e1007792	5	20
71	Analysis of the Effectiveness of the Genetic Algorithms based on Extraction of Association Rules. <i>Fundamenta Informaticae</i> , <b>2010</b> , 98, 1-14	1	19
70	Fast and Scalable Approaches to Accelerate the Fuzzy k-Nearest Neighbors Classifier for Big Data. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2020</b> , 28, 874-886	8.3	17
69	Prototype selection to improve monotonic nearest neighbor. <i>Engineering Applications of Artificial Intelligence</i> , <b>2017</b> , 60, 128-135	7.2	16
68	Instance reduction for one-class classification. <i>Knowledge and Information Systems</i> , <b>2019</b> , 59, 601-628	2.4	16
67	Financial time series forecasting with a bio-inspired fuzzy model. <i>Expert Systems With Applications</i> , <b>2012</b> , 39, 12302-12309	7.8	16

66	Guest Editorial Genetic Fuzzy Systems: What's Next? An Introduction to the Special Section. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2007</b> , 15, 533-535	8.3	16
65	Current prospects on ordinal and monotonic classification. <i>Progress in Artificial Intelligence</i> , <b>2016</b> , 5, 171-179	7.7	15
64	Distributed Entropy Minimization Discretizer for Big Data Analysis under Apache Spark <b>2015</b> ,		15
63	Chain based sampling for monotonic imbalanced classification. <i>Information Sciences</i> , <b>2019</b> , 474, 187-204	7.7	15
62	Mining fuzzy association rules from low-quality data. <i>Soft Computing</i> , <b>2012</b> , 16, 883-901	3.5	14
61	Exact fuzzy k-nearest neighbor classification for big datasets <b>2017</b> ,		12
60	Learning weighted linguistic rules to control an autonomous robot. <i>International Journal of Intelligent Systems</i> , <b>2009</b> , 24, 226-251	8.4	12
59	Hybrid laser pointer detection algorithm based on template matching and fuzzy rule-based systems for domotic control in real home environments. <i>Applied Intelligence</i> , <b>2012</b> , 36, 407-423	4.9	11
58	A case study for learning behaviors in mobile robotics by evolutionary fuzzy systems. <i>Expert Systems With Applications</i> , <b>2010</b> , 37, 1471-1493	7.8	11
57	Statistical analysis of convergence performance throughout the evolutionary search: A case study with SaDE-MMTS and Sa-EPsDE-MMTS <b>2013</b> ,		9
56	A multi-objective evolutionary algorithm for mining quantitative association rules <b>2011</b> ,		9
55	MoNGEL: monotonic nested generalized exemplar learning. <i>Pattern Analysis and Applications</i> , <b>2017</b> , 20, 441-452	2.3	8
54	Smartdata: Data preprocessing to achieve smart data in R. <i>Neurocomputing</i> , <b>2019</b> , 360, 1-13	5.4	8
53	KEEL: A data mining software tool integrating genetic fuzzy systems <b>2008</b> ,		8
52	A Multi-Objective Evolutionary Algorithm for Rule Selection and Tuning on Fuzzy Rule-Based Systems. <i>IEEE International Conference on Fuzzy Systems</i> , <b>2007</b> ,		8
51	Experimental Study on 164 Algorithms Available in Software Tools for Solving Standard Non-Linear Regression Problems. <i>IEEE Access</i> , <b>2019</b> , 7, 108916-108939	3.5	7
50	From Big to Smart Data: Iterative ensemble filter for noise filtering in Big Data classification. <i>International Journal of Intelligent Systems</i> , <b>2019</b> , 34, 3260-3274	8.4	7
49	Special Issue on Software Tools for Soft Computing. <i>International Journal of Computational Intelligence Systems</i> , <b>2013</b> , 6, 1-2	3.4	7

48	Fuzzy-genetic optimization of the parameters of a low cost system for the optical measurement of several dimensions of vehicles. <i>Soft Computing</i> , <b>2008</b> , 12, 751-764	3.5	7
47	Genetic Learning of Membership Functions for Mining Fuzzy Association Rules. <i>IEEE International Conference on Fuzzy Systems</i> , <b>2007</b> ,		7
46	Omics Approaches in Adipose Tissue and Skeletal Muscle Addressing the Role of Extracellular Matrix in Obesity and Metabolic Dysfunction. <i>International Journal of Molecular Sciences</i> , <b>2021</b> , 22,	6.3	7
45	Fuzzy k-nearest neighbors with monotonicity constraints: Moving towards the robustness of monotonic noise. <i>Neurocomputing</i> , <b>2021</b> , 439, 106-121	5.4	6
44	Py4JFML: A Python wrapper for using the IEEE Std 1855-2016 through JFML <b>2019</b> ,		6
43	EUSC: A clustering-based surrogate model to accelerate evolutionary undersampling in imbalanced classification. <i>Applied Soft Computing Journal</i> , <b>2021</b> , 101, 107033	7.5	6
42	Label noise filtering techniques to improve monotonic classification. <i>Neurocomputing</i> , <b>2019</b> , 353, 83-95	5.4	5
41	DILS: Constrained clustering through dual iterative local search. <i>Computers and Operations Research</i> , <b>2020</b> , 121, 104979	4.6	5
40	Special issue on Hybrid Fuzzy Models. <i>International Journal of Hybrid Intelligent Systems</i> , <b>2010</b> , 7, 1-1	0.9	5
39	Temporal association rule mining: An overview considering the time variable as an integral or implied component. <i>Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery</i> , <b>2020</b> , 10, e1367	6.9	4
38	Evolutionary data mining and applications: A revision on the most cited papers from the last 10 years (2007-2017). <i>Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery</i> , <b>2018</b> , 8, e1239	6.9	4
37	Analyzing fuzzy association rules with Fingrams in KEEL <b>2014</b> ,		4
36	A new fingram-based software tool for visual representation and analysis of fuzzy association rules <b>2013</b> ,		4
35	Genetic tuning of a laser pointer environment control device system for handicapped people with fuzzy systems <b>2010</b> ,		4
34	From Big Data to Smart Data with the K-Nearest Neighbours Algorithm <b>2016</b> ,		4
33	ProLSFEO-LDL: Prototype Selection and Label- Specific Feature Evolutionary Optimization for Label Distribution Learning. <i>Applied Sciences (Switzerland)</i> , <b>2020</b> , 10, 3089	2.6	3
32	A first attempt on evolutionary prototype reduction for nearest neighbor one-class classification <b>2014</b> ,		3
31	On the statistical analysis of the parameters trend in a machine learning algorithm. <i>Progress in Artificial Intelligence</i> , <b>2014</b> , 3, 51-53	4	3

30	A preliminary study on the use of differential evolution for adjusting the position of examples in nearest neighbor classification <b>2010</b> ,			3
29	Evolutionary learning of a laser pointer detection fuzzy system for an environment control system <b>2011</b> ,			3
28	Addressing Data-Complexity for Imbalanced Data-Sets: A Preliminary Study on the Use of Preprocessing for C4.5 <b>2009</b> ,			3
27	A First Approach to Nearest Hyperrectangle Selection by Evolutionary Algorithms <b>2009</b> ,			3
26	Synthetic Sample Generation for Label Distribution Learning. <i>Information Sciences</i> , <b>2021</b> , 544, 197-213	7.7		3
25	Evolutionary Extraction of Association Rules: A Preliminary Study on their Effectiveness. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 646-653	0.9		2
24	A Data Mining Software Package Including Data Preparation and Reduction: KEEL. <i>Intelligent Systems Reference Library</i> , <b>2015</b> , 285-313	0.8		2
23	Interpretability analysis of fuzzy association rules supported by fignrams <b>2013</b> ,			2
22	Interoperability for Embedded Systems in JFML Software: An Arduino-based implementation <b>2018</b> ,			2
21	A preliminary study on Hybrid Spill-Tree Fuzzy k-Nearest Neighbors for big data classification <b>2018</b> ,			2
20	Enhancing instance-level constrained clustering through differential evolution. <i>Applied Soft Computing Journal</i> , <b>2021</b> , 108, 107435	7.5		2
19	Evaluation of the Predictive Ability, Environmental Regulation and Pharmacogenetics Utility of a BMI-Predisposing Genetic Risk Score during Childhood and Puberty. <i>Journal of Clinical Medicine</i> , <b>2020</b> , 9,	5.1		1
18	Fuzzy Autoregressive Rules: Towards Linguistic Time Series Modeling. <i>Econometric Reviews</i> , <b>2011</b> , 30, 646-668	1.1		1
17	Improving constrained clustering via decomposition-based multiobjective optimization with memetic elitism <b>2020</b> ,			1
16	Data Reduction for Big Data <b>2020</b> , 81-99			1
15	Landmark-based music recognition system optimisation using genetic algorithms. <i>Multimedia Tools and Applications</i> , <b>2016</b> , 75, 16905-16922	2.5		1
14	Distance Metric Learning with Prototype Selection for Imbalanced Classification. <i>Lecture Notes in Computer Science</i> , <b>2021</b> , 391-402	0.9		1
13	Ordinal regression with explainable distance metric learning based on ordered sequences. <i>Machine Learning</i> , <b>1</b>	4		1

12	ME-MEOA/DCC: Multiobjective constrained clustering through decomposition-based memetic elitism. <i>Swarm and Evolutionary Computation</i> , <b>2021</b> , 66, 100939	9.8	1
11	Mining high average-utility sequential rules to identify high-utility gene expression sequences in longitudinal human studies. <i>Expert Systems With Applications</i> , <b>2022</b> , 193, 116411	7.8	0
10	Implementation and Integration of Algorithms into the KEEL Data-Mining Software Tool. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 562-569	0.9	0
9	SOUL: Scala Oversampling and Undersampling Library for imbalance classification. <i>SoftwareX</i> , <b>2021</b> , 15, 100767	2.7	0
8	Human Multi-omics Data Pre-processing for Predictive Purposes Using Machine Learning: A Case Study in Childhood Obesity. <i>Lecture Notes in Computer Science</i> , <b>2022</b> , 359-374	0.9	0
7	Special Issue on Computational Intelligence Software Guest Editorial. <i>IEEE Computational Intelligence Magazine</i> , <b>2016</b> , 11, 13-14	5.6	
6	Agglomerative Constrained Clustering Through Similarity and Distance Recalculation. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 424-436	0.9	
5	eXplainable Artificial Intelligence (XAI) for the identification of biologically relevant gene expression patterns in longitudinal human studies, insights from obesity research <b>2020</b> , 16, e1007792		
4	eXplainable Artificial Intelligence (XAI) for the identification of biologically relevant gene expression patterns in longitudinal human studies, insights from obesity research <b>2020</b> , 16, e1007792		
3	eXplainable Artificial Intelligence (XAI) for the identification of biologically relevant gene expression patterns in longitudinal human studies, insights from obesity research <b>2020</b> , 16, e1007792		
2	eXplainable Artificial Intelligence (XAI) for the identification of biologically relevant gene expression patterns in longitudinal human studies, insights from obesity research <b>2020</b> , 16, e1007792		
1	Gene Expression Profiles of Visceral and Subcutaneous Adipose Tissues in Children with Overweight or Obesity: The KIDADIPOSEQ Project. <i>Lecture Notes in Computer Science</i> , <b>2022</b> , 42-46	0.9	