Alberto Fernandez

List of Publications by Year in Descending Order

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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.

114 papers	8,554 citations	36 h-index	92 g-index
122 ext. papers	10,337 ext. citations	4.3 avg, IF	6.31 L-index

#	Paper	IF	Citations
114	A New Exploitation Scheme in the Context of Bipolar Classifiers. *Studies in Computational Intelligence*, **2022**, 1-9	0.8	
113	FW-SMOTE: A feature-weighted oversampling approach for imbalanced classification. *Pattern Recognition*, **2022**, 124, 108511	7.7	5
112	The impact of heterogeneous distance functions on missing data imputation and classification performance. *Engineering Applications of Artificial Intelligence*, **2022**, 111, 104791	7.2	
111	Revisiting data complexity metrics based on morphology for overlap and imbalance: snapshot, new overlap number of balls metrics and singular problems prospect. *Knowledge and Information Systems*, **2021**, 63, 1961-1989	2.4	5
110	SOUL: Scala Oversampling and Undersampling Library for imbalance classification. *SoftwareX*, **2021**, 15, 100767	2.7	0
109	FDR2-BD: A Fast Data Reduction Recommendation Tool for Tabular Big Data Classification Problems. *Electronics (Switzerland)*, **2021**, 10, 1757	2.6	2
108	IFC-BD: An Interpretable Fuzzy Classifier for Boosting Explainable Artificial Intelligence in Big Data. *IEEE Transactions on Fuzzy Systems*, **2021**, 1-1	8.3	8
107	Learning interpretable multi-class models by means of hierarchical decomposition: Threshold Control for Nested Dichotomies. *Neurocomputing*, **2021**, 463, 514-524	5.4	
106	HFER: Promoting Explainability in Fuzzy Systems via Hierarchical Fuzzy Exception Rules **2020**,		4
105	Chi-BD-DRF: Design of Scalable Fuzzy Classifiers for Big Data via A Dynamic Rule Filtering Approach **2020**,		1
104	On the Need of Interpretability for Biomedical Applications: Using Fuzzy Models for Lung Cancer Prediction with Liquid Biopsy **2019**,		5
103	Evolutionary Fuzzy Systems: A Case Study for Intrusion Detection Systems. *Studies in Computational Intelligence*, **2019**, 169-190	0.8	11
102	A Metahierarchical Rule Decision System to Design Robust Fuzzy Classifiers Based on Data Complexity. *IEEE Transactions on Fuzzy Systems*, **2019**, 27, 701-715	8.3	9
101	An Analysis of Local and Global Solutions to Address Big Data Imbalanced Classification: A Case Study with SMOTE Preprocessing. *Communications in Computer and Information Science*, **2019**, 75-85	0.3	5
100	. *IEEE Computational Intelligence Magazine*, **2019**, 14, 69-81	5.6	90
99	A multi-objective evolutionary fuzzy system to obtain a broad and accurate set of solutions in intrusion detection systems. *Soft Computing*, **2019**, 23, 1321-1336	3.5	26
98	Big Data: Tutorial and guidelines on information and process fusion for analytics algorithms with MapReduce. *Information Fusion*, **2018**, 42, 51-61	16.7	90

97	Surveying alignment-free features for Ortholog detection in related yeast proteomes by using supervised big data classifiers. *BMC Bioinformatics*, **2018**, 19, 166	3.6	2
96	SMOTE-BD: An Exact and Scalable Oversampling Method for Imbalanced Classification in Big Data. *Journal of Computer Science and Technology(Argentina)*, **2018**, 18, e23	0.3	11
95	Dynamic affinity-based classification of multi-class imbalanced data with one-versus-one decomposition: a fuzzy rough set approach. *Knowledge and Information Systems*, **2018**, 56, 55-84	2.4	22
94	Learning from Imbalanced Data Sets **2018**,		198
93	Introduction to KDD and Data Science **2018**, 1-17		5
92	Software and Libraries for Imbalanced Classification **2018**, 351-377		
91	Data Level Preprocessing Methods **2018**, 79-121		0
90	Dimensionality Reduction for Imbalanced Learning **2018**, 227-251		2
89	Imbalanced Classification for Big Data **2018**, 327-349		4
88	Foundations on Imbalanced Classification **2018**, 19-46		5
87	Cost-Sensitive Learning **2018**, 63-78		5
86	Imbalanced Classification with Multiple Classes **2018**, 197-226		0
85	Ensemble Learning **2018**, 147-196		3
84	Data Intrinsic Characteristics **2018**, 253-277		2
83	Imbalance: Oversampling algorithms for imbalanced classification in R. *Knowledge-Based Systems*, **2018**, 161, 329-341	7.3	29
82	Fuzzy rule based classification systems for big data with MapReduce: granularity analysis. *Advances in Data Analysis and Classification*, **2017**, 11, 711-730	1.8	23
81	An insight into imbalanced Big Data classification: outcomes and challenges. *Complex & Intelligent Systems*, **2017**, 3, 105-120	7.1	101
80	A Pareto-based Ensemble with Feature and Instance Selection for Learning from Multi-Class Imbalanced Datasets. *International Journal of Neural Systems*, **2017**, 27, 1750028	6.2	31

79	NMC: nearest matrix classification A new combination model for pruning One-vs-One ensembles by transforming the aggregation problem. *Information Fusion*, **2017**, 36, 26-51	16.7	14
78	Chi-Spark-RS: An Spark-built evolutionary fuzzy rule selection algorithm in imbalanced classification for big data problems **2017**,		10
77	Why Linguistic Fuzzy Rule Based Classification Systems perform well in Big Data Applications?. *International Journal of Computational Intelligence Systems*, **2017**, 10, 1211	3.4	9
76	KEEL 3.0: An Open Source Software for Multi-Stage Analysis in Data Mining. *International Journal of Computational Intelligence Systems*, **2017**, 10, 1238	3.4	122
75	A Review of Distributed Data Models for Learning. *Lecture Notes in Computer Science*, **2017**, 88-97	0.9	0
74	Evolutionary Fuzzy Systems: A Case Study in Imbalanced Classification. *Studies in Fuzziness and Soft Computing*, **2016**, 169-200	0.7	1
73	Enhancing evolutionary fuzzy systems for multi-class problems: Distance-based relative competence weighting with truncated confidences (DRCW-TC). *International Journal of Approximate Reasoning*, **2016**, 73, 108-122	3.6	4
72	Ordering-based pruning for improving the performance of ensembles of classifiers in the framework of imbalanced datasets. *Information Sciences*, **2016**, 354, 178-196	7.7	55
71	On the Combination of Pairwise and Granularity Learning for Improving Fuzzy Rule-Based Classification Systems: GL-FARCHD-OVO. *Advances in Intelligent Systems and Computing*, **2016**, 135-146	0.4	1
70	New Ordering-Based Pruning Metrics for Ensembles of Classifiers in Imbalanced Datasets. *Advances in Intelligent Systems and Computing*, **2016**, 3-15	0.4	1
69	A First Approach in Evolutionary Fuzzy Systems based on the lateral tuning of the linguistic labels for Big Data classification **2016**,		7
68	A View on Fuzzy Systems for Big Data: Progress and Opportunities. *International Journal of Computational Intelligence Systems*, **2016**, 9, 69-80	3.4	43
67	Glasses detection on real images based on robust alignment. *Machine Vision and Applications*, **2015**, 26, 519-531	2.8	16
66	A Real-Time Big Data Architecture for Glasses Detection Using Computer Vision Techniques **2015**,		2
65	A proposal for evolutionary fuzzy systems using feature weighting: Dealing with overlapping in imbalanced datasets. *Knowledge-Based Systems*, **2015**, 73, 1-17	7.3	37
64	Enhancing Multiclass Classification in FARC-HD Fuzzy Classifier: On the Synergy Between n-Dimensional Overlap Functions and Decomposition Strategies. *IEEE Transactions on Fuzzy Systems*, **2015**, 23, 1562-1580	8.3	92
63	On the combination of genetic fuzzy systems and pairwise learning for improving detection rates on Intrusion Detection Systems. *Expert Systems With Applications*, **2015**, 42, 193-202	7.8	116
62	DRCW-OVO: Distance-based relative competence weighting combination for One-vs-One strategy in multi-class problems. *Pattern Recognition*, **2015**, 48, 28-42	7.7	61

61	**2015**,		2
60	Revisiting Evolutionary Fuzzy Systems: Taxonomy, applications, new trends and challenges. *Knowledge-Based Systems*, **2015**, 80, 109-121	7.3	95
59	Addressing Overlapping in Classification with Imbalanced Datasets: A First Multi-objective Approach for Feature and Instance Selection. *Lecture Notes in Computer Science*, **2015**, 36-44	0.9	4
58	Empowering difficult classes with a similarity-based aggregation in multi-class classification problems. *Information Sciences*, **2014**, 264, 135-157	7.7	26
57	E-learning and educational data mining in cloud computing: an overview. *International Journal of Learning Technology*, **2014**, 9, 25	0.5	22
56	Big Data with Cloud Computing: an insight on the computing environment, MapReduce, and programming frameworks. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, **2014**, 4, 380-409	6.9	134
55	On the importance of the validation technique for classification with imbalanced datasets: Addressing covariate shift when data is skewed. *Information Sciences*, **2014**, 257, 1-13	7.7	97
54	An insight into classification with imbalanced data: Empirical results and current trends on using data intrinsic characteristics. *Information Sciences*, **2013**, 250, 113-141	7.7	829
53	IVTURS: A Linguistic Fuzzy Rule-Based Classification System Based On a New Interval-Valued Fuzzy Reasoning Method With Tuning and Rule Selection. *IEEE Transactions on Fuzzy Systems*, **2013**, 21, 399-411	8.3	105
52	Analysing the classification of imbalanced data-sets with multiple classes: Binarization techniques and ad-hoc approaches. *Knowledge-Based Systems*, **2013**, 42, 97-110	7.3	216
51	Dynamic classifier selection for One-vs-One strategy: Avoiding non-competent classifiers. *Pattern Recognition*, **2013**, 46, 3412-3424	7.7	75
50	An Overview on the Structure and Applications for Business Intelligence and Data Mining in Cloud Computing. *Advances in Intelligent Systems and Computing*, **2013**, 559-570	0.4	2
49	EUSBoost: Enhancing ensembles for highly imbalanced data-sets by evolutionary undersampling. *Pattern Recognition*, **2013**, 46, 3460-3471	7.7	242
48	A hierarchical genetic fuzzy system based on genetic programming for addressing classification with highly imbalanced and borderline data-sets. *Knowledge-Based Systems*, **2013**, 38, 85-104	7.3	58
47	Addressing covariate shift for Genetic Fuzzy Systems classifiers: A case of study with FARC-HD for imbalanced datasets **2013**,		4
46	Analysis of preprocessing vs. cost-sensitive learning for imbalanced classification. Open problems on intrinsic data characteristics. *Expert Systems With Applications*, **2012**, 39, 6585-6608	7.8	192
45	FEATURE SELECTION AND GRANULARITY LEARNING IN GENETIC FUZZY RULE-BASED CLASSIFICATION SYSTEMS FOR HIGHLY IMBALANCED DATA-SETS. *International Journal of Uncertainty, Fuzziness and Knowlege-Based Systems*, **2012**, 20, 369-397	0.8	28
44	A Review on Ensembles for the Class Imbalance Problem: Bagging-, Boosting-, and Hybrid-Based Approaches. *IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews*, **2012**, 42, 463-484		1372

43	IIVFDT: IGNORANCE FUNCTIONS BASED INTERVAL-VALUED FUZZY DECISION TREE WITH GENETIC TUNING. *International Journal of Uncertainty, Fuzziness and Knowlege-Based Systems*, **2012**, 20, 1-30	0.8	26
42	Linguistic Fuzzy Rules in Data Mining: Follow-Up Mamdani Fuzzy Modeling Principle. *Studies in Fuzziness and Soft Computing*, **2012**, 103-122	0.7	3
41	An Overview of E-Learning in Cloud Computing. *Advances in Intelligent Systems and Computing*, **2012**, 35-46	0.4	26
40	Addressing the Classification with Imbalanced Data: Open Problems and New Challenges on Class Distribution. *Lecture Notes in Computer Science*, **2011**, 1-10	0.9	28
39	Addressing data complexity for imbalanced data sets: analysis of SMOTE-based oversampling and evolutionary undersampling. *Soft Computing*, **2011**, 15, 1909-1936	3.5	109
38	A case study on medical diagnosis of cardiovascular diseases using a Genetic Algorithm for Tuning Fuzzy Rule-Based Classification Systems with Interval-Valued Fuzzy Sets **2011**,		2
37	Using KEEL software as a educational tool: A case of study teaching data mining **2011**,		5
36	On the cooperation of interval-valued fuzzy sets and genetic tuning to improve the performance of fuzzy decision trees **2011**,		1
35	A genetic tuning to improve the performance of Fuzzy Rule-Based Classification Systems with Interval-Valued Fuzzy Sets: Degree of ignorance and lateral position. *International Journal of Approximate Reasoning*, **2011**, 52, 751-766	3.6	99
34	An overview of ensemble methods for binary classifiers in multi-class problems: Experimental study on one-vs-one and one-vs-all schemes. *Pattern Recognition*, **2011**, 44, 1761-1776	7.7	465
33	Studying the behavior of a multiobjective genetic algorithm to design fuzzy rule-based classification systems for imbalanced data-sets **2011**,		2
32	Predicting Biodegradable Quality of Chemicals with the TGI+.3 Classifier **2011**,		2
31	Construction of Interval-Valued Fuzzy Preference Relations Using Ignorance Functions: Interval-Valued Non Dominance Criterion. *Advances in Intelligent and Soft Computing*, **2011**, 243-255		5
30	On the Usefulness of Fuzzy Rule Based Systems Based on Hierarchical Linguistic Fuzzy Partitions. *Intelligent Systems Reference Library*, **2011**, 155-184	0.8	
29	A first approach for cost-sensitive classification with linguistic Genetic Fuzzy Systems in imbalanced data-sets **2010**,		3
28	A genetic algorithm for tuning fuzzy rule-based classification systems with Interval-Valued Fuzzy Sets **2010**,		4
27	Analysing the Hierarchical Fuzzy Rule Based Classification Systems with genetic rule selection **2010**,		2
26	Genetics-Based Machine Learning for Rule Induction: State of the Art, Taxonomy, and Comparative Study. *IEEE Transactions on Evolutionary Computation*, **2010**, 14, 913-941	15.6	106

25	Analysis of an evolutionary RBFN design algorithm, CO2RBFN, for imbalanced data sets. *Pattern Recognition Letters*, **2010**, 31, 2375-2388	4.7	20
24	Solving multi-class problems with linguistic fuzzy rule based classification systems based on pairwise learning and preference relations. *Fuzzy Sets and Systems*, **2010**, 161, 3064-3080	3.7	53
23	Advanced nonparametric tests for multiple comparisons in the design of experiments in computational intelligence and data mining: Experimental analysis of power. *Information Sciences*, **2010**, 180, 2044-2064	7.7	1240
22	On the 2-tuples based genetic tuning performance for fuzzy rule based classification systems in imbalanced data-sets. *Information Sciences*, **2010**, 180, 1268-1291	7.7	82
21	Improving the performance of fuzzy rule-based classification systems with interval-valued fuzzy sets and genetic amplitude tuning. *Information Sciences*, **2010**, 180, 3674-3685	7.7	90
20	Multi-class Imbalanced Data-Sets with Linguistic Fuzzy Rule Based Classification Systems Based on Pairwise Learning. *Lecture Notes in Computer Science*, **2010**, 89-98	0.9	25
19	A Genetic Algorithm for Feature Selection and Granularity Learning in Fuzzy Rule-Based Classification Systems for Highly Imbalanced Data-Sets. *Communications in Computer and Information Science*, **2010**, 741-750	0.3	6
18	A genetic learning of the fuzzy rule-based classification system granularity for highly imbalanced data-sets **2009**,		2
17	A study of statistical techniques and performance measures for genetics-based machine learning: accuracy and interpretability. *Soft Computing*, **2009**, 13, 959-977	3.5	460
16	On the influence of an adaptive inference system in fuzzy rule based classification systems for imbalanced data-sets. *Expert Systems With Applications*, **2009**, 36, 9805-9812	7.8	43
15	Hierarchical fuzzy rule based classification systems with genetic rule selection for imbalanced data-sets. *International Journal of Approximate Reasoning*, **2009**, 50, 561-577	3.6	134
14	Enhancing the effectiveness and interpretability of decision tree and rule induction classifiers with evolutionary training set selection over imbalanced problems. *Applied Soft Computing Journal*, **2009**, 9, 1304-1314	7.5	72
13	Addressing Data-Complexity for Imbalanced Data-Sets: A Preliminary Study on the Use of Preprocessing for C4.5 **2009**,		3
12	A First Study on the Use of Interval-Valued Fuzzy Sets with Genetic Tuning for Classification with Imbalanced Data-Sets. *Lecture Notes in Computer Science*, **2009**, 581-588	0.9	2
11	Improving the Performance of Fuzzy Rule Based Classification Systems for Highly Imbalanced Data-Sets Using an Evolutionary Adaptive Inference System. *Lecture Notes in Computer Science*, **2009**, 294-301	0.9	3
10	Implementation and Integration of Algorithms into the KEEL Data-Mining Software Tool. *Lecture Notes in Computer Science*, **2009**, 562-569	0.9	0
9	A Preliminar Analysis of CO2RBFN in Imbalanced Problems. *Lecture Notes in Computer Science*, **2009**, 57-64	0.9	
8	KEEL: A data mining software tool integrating genetic fuzzy systems **2008**,		8

7	A Short Study on the Use of Genetic 2-Tuples Tuning for Fuzzy Rule Based Classification Systems in Imbalanced Data-Sets **2008**,		1
6	A study of the behaviour of linguistic fuzzy rule based classification systems in the framework of imbalanced data-sets. *Fuzzy Sets and Systems*, **2008**, 159, 2378-2398	3.7	196
5	A Study on the Use of the Fuzzy Reasoning Method Based on the Winning Rule vs. Voting Procedure for Classification with Imbalanced Data Sets. *Lecture Notes in Computer Science*, **2007**, 375-382	0.9	2
4	An Analysis of the Rule Weights and Fuzzy Reasoning Methods for Linguistic Rule Based Classification Systems Applied to Problems with Highly Imbalanced Data Sets. *Lecture Notes in Computer Science*, **2007**, 170-178	0.9	5
3	A Proposal of Evolutionary Prototype Selection for Class Imbalance Problems. *Lecture Notes in Computer Science*, **2006**, 1415-1423	0.9	3
2	SMOTE for Learning from Imbalanced Data: Progress and Challenges, Marking the 15-year Anniversary. *Journal of Artificial Intelligence Research*,61, 863-905	4	415
1	On the joint-effect of class imbalance and overlap: a critical review. *Artificial Intelligence Review*,1	9.7	3