Eyke HÃ¼llermeier

List of Publications by Year
in descending order

119 papers	6,463 citations	94269 37 h-index	69108 77 g-index
123 all docs	123 docs citations	123 times ranked	4410 citing authors

#	Article	IF	Citations
1	Multilabel classification via calibrated label ranking. Machine Learning, 2008, 73, 133-153.	3.4	701
2	Aleatoric and epistemic uncertainty in machine learning: an introduction to concepts and methods. Machine Learning, 2021, 110, 457-506.	3.4	487
3	Label ranking by learning pairwise preferences. Artificial Intelligence, 2008, 172, 1897-1916.	3.9	378
4	FURIA: an algorithm for unordered fuzzy rule induction. Data Mining and Knowledge Discovery, 2009, 19, 293-319.	2.4	351
5	Combining instance-based learning and logistic regression for multilabel classification. Machine Learning, 2009, 76, 211-225.	3.4	336
6	Grouping, Overlap, and Generalized Bientropic Functions for Fuzzy Modeling of Pairwise Comparisons. IEEE Transactions on Fuzzy Systems, 2012, 20, 405-415.	6.5	241
7	On label dependence and loss minimization in multi-label classification. Machine Learning, 2012, 88, 5-45.	3.4	215
8	Open challenges for data stream mining research. SIGKDD Explorations: Newsletter of the Special Interest Group (SIG) on Knowledge Discovery & Data Mining, 2014, 16, 1-10.	3.2	215
9	Online clustering of parallel data streams. Data and Knowledge Engineering, 2006, 58, 180-204.	2.1	196
10	Fuzzy methods in machine learning and data mining: Status and prospects. Fuzzy Sets and Systems, 2005, 156, 387-406.	1.6	176
11	A systematic approach to the assessment of fuzzy association rules. Data Mining and Knowledge Discovery, 2006, 13, 167-192.	2.4	160
12	Dependent binary relevance models for multi-label classification. Pattern Recognition, 2014, 47, 1494-1508.	5.1	120
13	Combining predictions in pairwise classification: An optimal adaptive voting strategy and its relation to weighted voting. Pattern Recognition, 2010, 43, 128-142.	5.1	117
14	Learning from ambiguously labeled examples*. Intelligent Data Analysis, 2006, 10, 419-439.	0.4	109
15	Risk assessment system of natural hazards: A new approach based on fuzzy probability. Fuzzy Sets and Systems, 2007, 158, 987-999.	1.6	105
16	ML-Plan: Automated machine learning via hierarchical planning. Machine Learning, 2018, 107, 1495-1515.	3.4	104
17	Learning monotone nonlinear models using the Choquet integral. Machine Learning, 2012, 89, 183-211.	3.4	94
18	Fuzzy sets in machine learning and data mining. Applied Soft Computing Journal, 2011, 11, 1493-1505.	4.1	91

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19	From the Similarity Analysis of Protein Cavities to the Functional Classification of Protein Families Using Cavbase. Journal of Molecular Biology, 2006, 359, 1023-1044.	2.0	89
20	FR3: A Fuzzy Rule Learner for Inducing Reliable Classifiers. IEEE Transactions on Fuzzy Systems, 2009, 17, 138-149.	6.5	89
21	Comparing Fuzzy Partitions: A Generalization of the Rand Index and Related Measures. IEEE Transactions on Fuzzy Systems, 2012, 20, 546-556.	6.5	89
22	Learning valued preference structures for solving classification problems. Fuzzy Sets and Systems, 2008, 159, 2337-2352.	1.6	83
23	Reliable classification: Learning classifiers that distinguish aleatoric and epistemic uncertainty. Information Sciences, 2014, 255, 16-29.	4.0	76
24	Learning from imprecise and fuzzy observations: Data disambiguation through generalized loss minimization. International Journal of Approximate Reasoning, 2014, 55, 1519-1534.	1.9	74
25	Decision tree and instance-based learning for label ranking. , 2009, , .		72
26	IBLStreams: a system for instance-based classification and regression on data streams. Evolving Systems, 2012, 3, 235-249.	2.4	62
27	Does machine learning need fuzzy logic?. Fuzzy Sets and Systems, 2015, 281, 292-299.	1.6	60
28	Preference Learning Using the Choquet Integral: The Case of Multipartite Ranking. IEEE Transactions on Fuzzy Systems, 2012, 20, 1102-1113.	6.5	58
29	Top-Down Induction of Fuzzy Pattern Trees. IEEE Transactions on Fuzzy Systems, 2011, 19, 241-252.	6.5	56
30	Preference-based reinforcement learning: a formal framework and a policy iteration algorithm. Machine Learning, 2012, 89, 123-156.	3.4	56
31	Multi-target prediction: a unifying view on problems and methods. Data Mining and Knowledge Discovery, 2019, 33, 293-324.	2.4	55
32	Efficient instance-based learning on data streams. Intelligent Data Analysis, 2007, 11, 627-650.	0.4	52
33	Physicochemical descriptors to discriminate protein-protein interactions in permanent and transient complexes selected by means of machine learning algorithms. Proteins: Structure, Function and Bioinformatics, 2006, 65, 607-622.	1.5	48
34	Why Fuzzy Decision Trees are Good Rankers. IEEE Transactions on Fuzzy Systems, 2009, 17, 1233-1244.	6.5	48
35	How to measure uncertainty in uncertainty sampling for active learning. Machine Learning, 2022, 111, 89-122.	3.4	46
36	FLEXIBILITY AND FUZZY CASE-BASED EVALUATION IN QUERYING: AN ILLUSTRATION IN AN EXPERIMENTAL SETTING. International Journal of Uncertainty, Fuzziness and Knowlege-Based Systems, 2003, 11, 43-66.	0.9	40

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37	Fuzzy Sets in Data Analysis: From Statistical Foundations to Machine Learning. IEEE Computational Intelligence Magazine, 2019, 14, 31-44.	3.4	40
38	A critical analysis of variants of the AUC. Machine Learning, 2008, 72, 247-262.	3.4	39
39	Is an ordinal class structure useful in classifier learning?. International Journal of Data Mining, Modelling and Management, 2008, 1, 45.	0.1	38
40	Merging chemical and biological space: Structural mapping of enzyme binding pocket space. Proteins: Structure, Function and Bioinformatics, 2009, 76, 317-330.	1.5	38
41	On the Problem of Error Propagation in Classifier Chains for Multi-label Classification. Studies in Classification, Data Analysis, and Knowledge Organization, 2014, , 163-170.	0.1	32
42	Recovery analysis for adaptive learning from non-stationary data streams: Experimental design and case study. Neurocomputing, 2015, 150, 250-264.	3.5	31
43	Fuzzy methods for case-based recommendation and decision support. Journal of Intelligent Information Systems, 2006, 27, 95-115.	2.8	30
44	On predictive accuracy and risk minimization in pairwise label ranking. Journal of Computer and System Sciences, 2010, 76, 49-62.	0.9	29
45	AutoML for Multi-Label Classification: Overview and Empirical Evaluation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, 43, 3037-3054.	9.7	29
46	Predicting Partial Orders: Ranking with Abstention. Lecture Notes in Computer Science, 2010, , 215-230.	1.0	29
47	Evolving fuzzy pattern trees for binary classification on data streams. Information Sciences, 2013, 220, 34-45.	4.0	28
48	Exploiting HIV-1 protease and reverse transcriptase cross-resistance information for improved drug resistance prediction by means of multi-label classification. BioData Mining, 2016, 9, 10.	2.2	26
49	Comparing probability measures using possibility theory: A notion of relative peakedness. International Journal of Approximate Reasoning, 2007, 45, 364-385.	1.9	25
50	Regret Analysis for Performance Metrics in Multi-Label Classification: The Case of Hamming and Subset Zero-One Loss. Lecture Notes in Computer Science, 2010, , 280-295.	1.0	24
51	Predicting rankings of software verification tools. , 2017, , .		23
52	Algorithm selection for software validation based on graph kernels. Automated Software Engineering, 2020, 27, 153-186.	2.2	22
53	FUZZY OPERATOR TREES FOR MODELING RATING FUNCTIONS. International Journal of Computational Intelligence and Applications, 2009, 08, 413-428.	0.6	20
54	Explanation as a Social Practice: Toward a Conceptual Framework for the Social Design of AI Systems. IEEE Transactions on Cognitive and Developmental Systems, 2021, 13, 717-728.	2.6	20

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55	Aleatoric and Epistemic Uncertainty with Random Forests. Lecture Notes in Computer Science, 2020, , 444-456.	1.0	20
56	Similarity-based inference as evidential reasoning. International Journal of Approximate Reasoning, 2001, 26, 67-100.	1.9	19
57	Preference-based reinforcement learning: evolutionary direct policy search using a preference-based racing algorithm. Machine Learning, 2014, 97, 327-351.	3.4	18
58	Predicting Machine Learning Pipeline Runtimes in the Context of Automated Machine Learning. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, 43, 3055-3066.	9.7	18
59	Superset Learning Based on Generalized Loss Minimization. Lecture Notes in Computer Science, 2015, , 260-275.	1.0	18
60	Fast Fuzzy Pattern Tree Learning for Classification. IEEE Transactions on Fuzzy Systems, 2015, 23, 2024-2033.	6.5	17
61	Dyad ranking using Plackettâ€“Luce models based on joint feature representations. Machine Learning, 2018, 107, 903-941.	3.4	16
62	A formal and empirical analysis of the fuzzy gamma rank correlation coefficient. Information Sciences, 2012, 206, 1-17.	4.0	15
63	Epistemic Uncertainty Sampling. Lecture Notes in Computer Science, 2019, , 72-86.	1.0	15
64	Efficient Learning of Classifiers Based on the 2-Additive Choquet Integral. Studies in Computational Intelligence, 2013, , 17-29.	0.7	15
65	Learning Similarity Functions from Qualitative Feedback. Lecture Notes in Computer Science, 2008, , 120-134.	1.0	12
66	On the effectiveness of heuristics for learning nested dichotomies: an empirical analysis. Machine Learning, 2018, 107, 1537-1560.	3.4	12
67	Efficient set-valued prediction in multi-class classification. Data Mining and Knowledge Discovery, 2021, 35, 1435-1469.	2.4	12
68	Similarity measures for protein structures based on fuzzy histogram comparison. , 2010, , .		11
69	From knowledge-based to data-driven fuzzy modeling. Informatik-Spektrum, 2015, 38, 500-509.	1.0	11
70	Multimodal Turn-Taking: Motivations, Methodological Challenges, and Novel Approaches. IEEE Transactions on Cognitive and Developmental Systems, 2020, 12, 260-271.	2.6	11
71	Flexible Control of Case-Based Prediction in the Framework of Possibility Theory. Lecture Notes in Computer Science, 2000, , 61-73.	1.0	11
72	Pattern trees for regression and fuzzy systems modeling. , 2010, , .		10

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73	Learning Gradient Boosted Multi-label Classification Rules. Lecture Notes in Computer Science, 2021, , 124-140.	1.0	10
74	Dyad Ranking Using A Bilinear Plackett-Luce Model. Lecture Notes in Computer Science, 2015, , 227-242.	1.0	10
75	Reliable Multi-class Classification based on Pairwise Epistemic and Aleatoric Uncertainty. , 2018, , .		10
76	Visualization of evolving fuzzy rule-based systems. Evolving Systems, 2014, 5, 175-191.	2.4	9
77	Multiple Graph Alignment for the Structural Analysis of Protein Active Sites. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2007, 4, 310-320.	1.9	9
78	Learning to Aggregate Using Uninorms. Lecture Notes in Computer Science, 2016, , 756-771.	1.0	8
79	GPU-based Cloud computing for comparing the structure of protein binding sites. , 2012, , .		7
80	Imprecise Matching of Requirements Specifications for Software Services Using Fuzzy Logic. IEEE Transactions on Software Engineering, 2017, 43, 739-759.	4.3	7
81	Coevolution of remaining useful lifetime estimation pipelines for automated predictive maintenance. , 2021, , .		7
82	Consistency of Probabilistic Classifier Trees. Lecture Notes in Computer Science, 2016, , 511-526.	1.0	7
83	Neural Representation and Learning of Hierarchical 2-additive Choquet Integrals. , 2020, , .		7
84	Similarity Analysis of Protein Binding Sites: A Generalization of the Maximum Common Subgraph Measure Based on Quasi-Clique Detection. , 2009, , .		6
85	Fuzzy machine learning and data mining^a. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2011, 1, 269-283.	4.6	6
86	Deep Q-Learning: Theoretical Insights From an Asymptotic Analysis. IEEE Transactions on Artificial Intelligence, 2022, 3, 139-151.	3.4	6
87	Safe Bayesian Optimization for Data-Driven Power Electronics Control Design in Microgrids: From Simulations to Real-World Experiments. IEEE Access, 2021, 9, 35654-35669.	2.6	6
88	Fingerprint Kernels for Protein Structure Comparison. Molecular Informatics, 2012, 31, 443-452.	1.4	5
89	Graphâ€based methods for protein structure comparison. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2013, 3, 307-320.	4.6	5
90	Preference-based Learning of Ideal Solutions in TOPSIS-like Decision Models. Journal of Multi-Criteria Decision Analysis, 2015, 22, 175-183.	1.0	5

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91	Machine Learning With the Sugeno Integral: The Case of Binary Classification. IEEE Transactions on Fuzzy Systems, 2021, 29, 3723-3733.	6.5	5
92	Agnostic Explanation of Model Change based on Feature Importance. KI - Kunstliche Intelligenz, 2022, 36, 211-224.	2.2	5
93	Identification of Functionally Related Enzymes by Learning-to-Rank Methods. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2014, 11, 1157-1169.	1.9	4
94	(WIP) Towards the Automated Composition of Machine Learning Services. , 2018, , .		4
95	Instance weighting through data imprecisiation. International Journal of Approximate Reasoning, 2021, 134, 1-14.	1.9	4
96	Inducing Fuzzy Concepts through Extended Version Space Learning. Lecture Notes in Computer Science, 2003, , 677-684.	1.0	4
97	Hybrid Ranking and Regression for Algorithm Selection. Lecture Notes in Computer Science, 2020, , 59-72.	1.0	4
98	Generalized transitivity: A systematic comparison of concepts with an application to preferences in the Babington Smith model. International Journal of Approximate Reasoning, 2020, 119, 373-407.	1.9	3
99	Pool-Based Realtime Algorithm Configuration: A Preselection Bandit Approach. Lecture Notes in Computer Science, 2020, , 216-232.	1.0	3
100	AN EARTHQUAKE RISK ASSESSMENT METHOD BASED ON FUZZY PROBABILITY. , 2004, , .		3
101	Algorithm selection on a meta level. Machine Learning, 2023, 112, 1253-1286.	3.4	3
102	Fuzzy Pattern Trees: Ein alternativer Ansatz zur Fuzzy-Modellierung. Automatisierungstechnik, 2012, 60, 622-629.	0.4	2
103	Fuzzy pattern trees as an alternative to rule-based fuzzy systems: Knowledge-driven, data-driven and hybrid modeling of color yield in polyester dyeing. , 2013, , .		2
104	Guest Editorsâ€™ introduction: special issue of the ECML/PKDD 2014 journal track. Machine Learning, 2014, 97, 1-3.	3.4	2
105	Exploiting Similarity for Supporting Data Analysis and Problem Solving. Lecture Notes in Computer Science, 1999, , 257-268.	1.0	2
106	Rule Chains for Visualizing Evolving Fuzzy Rule-Based Systems. Advances in Intelligent Systems and Computing, 2013, , 279-288.	0.5	2
107	Learning context-dependent choice functions. International Journal of Approximate Reasoning, 2022, 140, 116-155.	1.9	2
108	Graph Alignment: Fuzzy Pattern Mining for the Structural Analysis of Protein Active Sites. IEEE International Conference on Fuzzy Systems, 2007, , .	0.0	1

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109	Efficient Construction of Multiple Geometrical Alignments for the Comparison of Protein Binding Sites. , 2009, , .		1
110	Reduction Stumps for Multi-class Classification. Lecture Notes in Computer Science, 2018, , 225-237.	1.0	1
111	Preference-Based Reinforcement Learning Using Dyad Ranking. Lecture Notes in Computer Science, 2018, , 161-175.	1.0	1
112	A Method for Predicting Solutions in Case-Based Problem Solving. Lecture Notes in Computer Science, 2000, , 124-135.	1.0	1
113	Learning TSK Fuzzy Rules from Data Streams. Lecture Notes in Computer Science, 2017, , 559-574.	1.0	1
114	A flexible class of dependence-aware multi-label loss functions. Machine Learning, 2022, 111, 713.	3.4	1
115	Flexible constraints for regularization in learning from data. International Journal of Intelligent Systems, 2004, 19, 525-541.	3.3	0
116	Guest editorsâ€™ introduction: special issue of the ECML/PKDD 2014 journal track. Data Mining and Knowledge Discovery, 2014, 28, 1129-1133.	2.4	0
117	TSK-Streams: learning TSK fuzzy systems for regression on data streams. Data Mining and Knowledge Discovery, 2021, 35, 1941-1971.	2.4	0
118	On testing transitivity in online preference learning. Machine Learning, 2021, 110, 2063-2084.	3.4	0
119	Performance Prediction for Hardware-Software Configurations: A Case Study for Video Games. Lecture Notes in Computer Science, 2021, , 222-234.	1.0	0