Thomas Villmann

List of Publications by Year
in descending order

98	2,295	279798	233421
papers	citations	23 h-index	45 g-index

111	111	111	1438
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Generalized relevance learning vector quantization. Neural Networks, 2002, 15, 1059-1068.	5.9	329
2	Neural maps in remote sensing image analysis. Neural Networks, 2003, 16, 389-403.	5.9	138
3	Serotonin and dopamine transporter imaging in patients with obsessiveâ€“compulsive disorder. Psychiatry Research - Neuroimaging, 2005, 140, 63-72.	1.8	132
4	Batch and median neural gas. Neural Networks, 2006, 19, 762-771.	5.9	126
5	Supervised Neural Gas with General Similarity Measure. Neural Processing Letters, 2005, 21, 21-44.	3.2	117
6	Prototypeâ€based models in machine learning. Wiley Interdisciplinary Reviews: Cognitive Science, 2016, 7, 92-111.	2.8	81
7	Stochastic neighbor embedding (SNE) for dimension reduction and visualization using arbitrary divergences. Neurocomputing, 2012, 90, 23-45.	5.9	79
8	Limited Rank Matrix Learning, discriminative dimension reduction and visualization. Neural Networks, 2012, 26, 159-173.	5.9	79
9	Magnification Control in Self-Organizing Maps and Neural Gas. Neural Computation, 2006, 18, 446-469.	2.2	74
10	Divergence-Based Vector Quantization. Neural Computation, 2011, 23, 1343-1392.	2.2	65
11	Regularization in Matrix Relevance Learning. IEEE Transactions on Neural Networks, 2010, 21, 831-840.	4.2	59
12	Computational aspects of inverse analyses for determining softening curves of concrete. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 7223-7236.	6.6	56
13	On the Generalization Ability of GRLVQ Networks. Neural Processing Letters, 2005, 21, 109-120.	3.2	54
14	Can Learning Vector Quantization be an Alternative to SVM and Deep Learning? - Recent Trends and Advanced Variants of Learning Vector Quantization for Classification Learning. Journal of Artificial Intelligence and Soft Computing Research, 2017, 7, 65-81.	4.3	46
15	Explicit Magnification Control of Self-Organizing Maps for “Forbidden” Data. IEEE Transactions on Neural Networks, 2007, 18, 786-797.	4.2	44
16	Neighbor embedding XOM for dimension reduction and visualization. Neurocomputing, 2011, 74, 1340-1350.	5.9	43
17	Classification of mass-spectrometric data in clinical proteomics using learning vector quantization methods. Briefings in Bioinformatics, 2007, 9, 129-143.	6.5	38
18	Kernelized vector quantization in gradient-descent learning. Neurocomputing, 2015, 147, 83-95.	5.9	32

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19	EFFICIENT KERNELIZED PROTOTYPE BASED CLASSIFICATION. International Journal of Neural Systems, 2011, 21, 443-457.	5.2	31
20	Median fuzzy c-means for clustering dissimilarity data. Neurocomputing, 2010, 73, 1109-1116.	5.9	30
21	Functional relevance learning in generalized learning vector quantization. Neurocomputing, 2012, 90, 85-95.	5.9	30
22	Investigation of psycho-physiological interactions between patient and therapist during a psychodynamic therapy and their relation to speech using in terms of entropy analysis using a neural network approach. New Ideas in Psychology, 2008, 26, 309-325.	1.9	27
23	Application of an interpretable classification model on Early Folding Residues during protein folding. BioData Mining, 2019, 12, 1.	4.0	27
24	Generalized relevance LVQ (GRLVQ) with correlation measures for gene expression analysis. Neurocomputing, 2006, 69, 651-659.	5.9	23
25	Instability and discontinuous change in the experience of therapeutic interaction: An extended single-case study of psychodynamic therapy processes. Psychotherapy Research, 2010, 20, 398-412.	1.8	21
26	Border-sensitive learning in generalized learning vector quantization: an alternative to support vector machines. Soft Computing, 2015, 19, 2423-2434.	3.6	20
27	Correlation between automated writing movements and striatal dopaminergic innervation in patients with Wilson's disease. Journal of Neurology, 2002, 249, 1082-1087.	3.6	19
28	Magnification control for batch neural gas. Neurocomputing, 2007, 70, 1225-1234.	5.9	18
29	Distance Measures for Prototype Based Classification. Lecture Notes in Computer Science, 2014, , 100-116.	1.3	18
30	Median variants of learning vector quantization for learning of dissimilarity data. Neurocomputing, 2015, 169, 295-305.	5.9	17
31	Cancer informatics by prototype networks in mass spectrometry. Artificial Intelligence in Medicine, 2009, 45, 215-228.	6.5	16
32	Types of (dis-)similarities and adaptive mixtures thereof for improved classification learning. Neurocomputing, 2017, 268, 42-54.	5.9	16
33	Genotype Correlation with Fine Motor Symptoms in Patients with Wilsonâ€™s Disease. European Neurology, 2002, 48, 97-101.	1.4	13
34	Editorial A Successful Change From TNN to TNNLS and a Very Successful Year. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1-7.	11.3	13
35	Stationarity of Matrix Relevance LVQ. , 2015, , .		12
36	Non-Euclidean principal component analysis by Hebbian learning. Neurocomputing, 2015, 147, 107-119.	5.9	12

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37	Large margin linear discriminative visualization by Matrix Relevance Learning. , 2012, , .		11
38	Variants of DropConnect in Learning vector quantization networks for evaluation of classification stability. Neurocomputing, 2020, 403, 121-132.	5.9	11
39	Clustering of Categoric Data in Medicine â€" Application of Evolutionary Algorithms. Lecture Notes in Computer Science, 2001, , 619-627.	1.3	11
40	Generative versus Discriminative Prototype Based Classification. Advances in Intelligent Systems and Computing, 2014, , 123-132.	0.6	11
41	Regularization and improved interpretation of linear data mappings and adaptive distance measures. , 2013, , .		10
42	Precision-Recall-Optimization in Learning Vector Quantization Classifiers for Improved Medical Classification Systems. , 2014, , .		10
43	Adaptive tangent distances in generalized learning vector quantization for transformation and distortion invariant classification learning. , 2016, , .		10
44	Robustness of Generalized Learning Vector Quantization Models Against Adversarial Attacks. Advances in Intelligent Systems and Computing, 2020, , 189-199.	0.6	10
45	Quantum-inspired learning vector quantizers for prototype-based classification. Neural Computing and Applications, 2020, , 1.	5.6	10
46	Magnification control in winner relaxing neural gas. Neurocomputing, 2005, 63, 125-137.	5.9	9
47	Evolutionary algorithms using a neural network like migration scheme. Integrated Computer-Aided Engineering, 2002, 9, 25-35.	4.6	8
48	Evolutionary algorithms with neighborhood cooperativeness according to neural maps. Neurocomputing, 2004, 57, 151-169.	5.9	8
49	Funtional vector quantization by neural maps. , 2009, , .		8
50	Differentiable Kernels in Generalized Matrix Learning Vector Quantization. , 2012, , .		8
51	Learning vector quantization classifiers for ROC-optimization. Computational Statistics, 2018, 33, 1173-1194.	1.5	8
52	Rejection Strategies for Learning Vector Quantization â€" A Comparison of Probabilistic and Deterministic Approaches. Advances in Intelligent Systems and Computing, 2014, , 109-118.	0.6	8
53	Gradient Based Learning in Vector Quantization Using Differentiable Kernels. Advances in Intelligent Systems and Computing, 2013, , 193-204.	0.6	8
54	Atherosclerosis, myocardial infarction and primary hemostasis: Impact of platelets, von Willebrand factor and soluble glycoprotein VI. Thrombosis Research, 2019, 180, 98-104.	1.7	7

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55	ToF/Radar early feature-based fusion system for human detection and tracking. , 2021, , .		7
56	Probabilistic Learning Vector Quantization with Cross-Entropy for Probabilistic Class Assignments in Classification Learning. Lecture Notes in Computer Science, 2018, , 724-735.	1.3	7
57	Fuzzy classification using information theoretic learning vector quantization. Neurocomputing, 2008, 71, 3070-3076.	5.9	6
58	Evolving trees for the retrieval of mass spectrometry-based bacteria fingerprints. Knowledge and Information Systems, 2010, 25, 327-343.	3.2	6
59	Building the library of RNA 3D nucleotide conformations using the clustering approach. International Journal of Applied Mathematics and Computer Science, 2015, 25, 689-700.	1.5	6
60	Learning vector quantization as an interpretable classifier for the detection of SARS-CoV-2 types based on their RNA sequences. Neural Computing and Applications, 2022, 34, 67-78.	5.6	6
61	A Median Variant of Generalized Learning Vector Quantization. Lecture Notes in Computer Science, 2013, , 19-26.	1.3	6
62	The Coming of Age of Interpretable and Explainable Machine Learning Models. , 2021, , .		6
63	Virxicon: a lexicon of viral sequences. Bioinformatics, 2021, 36, 5507-5513.	4.1	6
64	Supervised data analysis and reliability estimation with exemplary application for spectral data. Neurocomputing, 2009, 72, 3590-3601.	5.9	5
65	Clustering by Fuzzy Neural Gas and Evaluation of Fuzzy Clusters. Computational Intelligence and Neuroscience, 2013, 2013, 1-10.	1.7	5
66	ICMLA Face Recognition Challenge -- Results of the Team Computational Intelligence Mittweida. , 2012, , .		4
67	Learning Vector Quantization with Adaptive Cost-Based Outlier-Rejection. Lecture Notes in Computer Science, 2015, , 772-782.	1.3	4
68	AI-Based Multi Sensor Fusion for Smart Decision Making: A Bi-Functional System for Single Sensor Evaluation in a Classification Task. Sensors, 2021, 21, 4405.	3.8	4
69	Comparison of Cluster Algorithms for the Analysis of Text Data Using Kolmogorov Complexity. Lecture Notes in Computer Science, 2009, , 61-69.	1.3	4
70	Fuzzy Neural Gas for Unsupervised Vector Quantization. Lecture Notes in Computer Science, 2012, , 350-358.	1.3	4
71	Divergence based vector quantization of spectral data. , 2010, , .		3
72	Lateral enhancement in adaptive metric learning for functional data. Neurocomputing, 2014, 131, 23-31.	5.9	3

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73	Similarities, Dissimilarities and Types of Inner Products for Data Analysis in the Context of Machine Learning. Lecture Notes in Computer Science, 2016, , 125-133.	1.3	3
74	Possibilistic Classification Learning Based on Contrastive Loss in Learning Vector Quantizer Networks. Lecture Notes in Computer Science, 2021, , 156-167.	1.3	3
75	The Resolved Mutual Information Function as a Structural Fingerprint of Biomolecular Sequences for Interpretable Machine Learning Classifiers. Entropy, 2021, 23, 1357.	2.2	3
76	Visualization of processes in self-learning systems. , 2012, , .		2
77	Transfer learning in classification based on manifolc. models and its relation to tangent metric learning. , 2017, , .		2
78	Partial Mutual Information for Classification of Gene Expression Data by Learning Vector Quantization. Advances in Intelligent Systems and Computing, 2014, , 259-269.	0.6	2
79	Multi-class and Cluster Evaluation Measures Based on RÃ©nyi and Tsallis Entropies and Mutual Information. Lecture Notes in Computer Science, 2018, , 736-749.	1.3	2
80	The symmetries of a nerve conduction equation. Applied Mathematics Letters, 1991, 4, 33-36.	2.7	1
81	Probabilistic Modeling in Machine Learning. , 2015, , 545-575.		1
82	Prototype-based Models for the Supervised Learning of Classification Schemes. Proceedings of the International Astronomical Union, 2016, 12, 129-138.	0.0	1
83	Relational and median variants of Possibilistic Fuzzy C-Means. , 2017, , .		1
84	Sensors data fusion for smart decisions making: A novel bi-functional system for the evaluation of sensors contribution in classification problems. , 2021, , .		1
85	RFSOM â€“ Extending Self-Organizing Feature Maps with Adaptive Metrics to Combine Spatial and Textural Features for Body Pose Estimation. Advances in Intelligent Systems and Computing, 2014, , 157-166.	0.6	1
86	Attention Based Classification Learning in GLVQ and Asymmetric Misclassification Assessment. Advances in Intelligent Systems and Computing, 2014, , 77-87.	0.6	1
87	Mathematical Characterization of Sophisticated Variants for Relevance Learning in Learning Matrix Quantization Based on Schatten-p-norms. Lecture Notes in Computer Science, 2015, , 403-414.	1.3	1
88	Divergence Based Online Learning in Vector Quantization. Lecture Notes in Computer Science, 2010, , 479-486.	1.3	1
89	Sparse Functional Relevance Learning in Generalized Learning Vector Quantization. Lecture Notes in Computer Science, 2011, , 79-89.	1.3	1
90	Quantum-Hybrid Neural Vector Quantization â€“ A Mathematical Approach. Lecture Notes in Computer Science, 2021, , 246-257.	1.3	1

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91	Sequence Learning in Unsupervised and Supervised Vector Quantization Using Hankel Matrices. Lecture Notes in Computer Science, 2017, , 131-142.	1.3	1
92	Fine motor skills disorders in the course of Wilson's disease. Annals of Indian Academy of Neurology, 2009, 12, 28-34.	0.5	1
93	A Learning Vector Quantization Architecture for Transfer Learning Based Classification in Case of Multiple Sources by Means of Null-Space Evaluation. Lecture Notes in Computer Science, 2022, , 354-364.	1.3	1
94	Tanimoto Metric in Tree-SOM for Improved Representation of Mass Spectrometry Data with an Underlying Taxonomic Structure. , 2009, , .		0
95	Appropriate Data Density Models in Probabilistic Machine Learning Approaches for Data Analysis. Lecture Notes in Computer Science, 2019, , 443-454.	1.3	0
96	Sophisticated LVQ Classification Models - Beyond Accuracy Optimization. Lecture Notes in Computer Science, 2016, , 116-130.	1.3	0
97	Searching for the Origins of Life â€“ Detecting RNA Life Signatures Using Learning Vector Quantization. Advances in Intelligent Systems and Computing, 2020, , 324-333.	0.6	0
98	Variants of Fuzzy Neural Gas. Advances in Intelligent Systems and Computing, 2020, , 261-270.	0.6	0