

Shigeo Abe

List of Publications by Year in descending order

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140
papers

2,864
citations

304743

22
h-index

223800

46
g-index

145
all docs

145
docs citations

145
times ranked

1495
citing authors

#	ARTICLE	IF	CITATIONS
1	A method for fuzzy rules extraction directly from numerical data and its application to pattern classification. IEEE Transactions on Fuzzy Systems, 1995, 3, 18-28.	9.8	267
2	Support Vector Machines for Pattern Classification. Advances in Computer Vision and Pattern Recognition, 2010, , .	1.3	263
3	Fuzzy least squares support vector machines for multiclass problems. Neural Networks, 2003, 16, 785-792.	5.9	199
4	A fuzzy classifier with ellipsoidal regions. IEEE Transactions on Fuzzy Systems, 1997, 5, 358-368.	9.8	158
5	Fuzzy rules extraction directly from numerical data for function approximation. IEEE Transactions on Systems, Man, and Cybernetics, 1995, 25, 119-129.	0.9	151
6	Calculation of Energy Losses in a Distribution System. IEEE Transactions on Power Apparatus and Systems / Technical Operations Committee, 1980, PAS-99, 1347-1356.	0.4	120
7	Incremental learning of feature space and classifier for face recognition. Neural Networks, 2005, 18, 575-584.	5.9	103
8	Power System Voltage Stability. IEEE Transactions on Power Apparatus and Systems / Technical Operations Committee, 1982, PAS-101, 3830-3840.	0.4	87
9	A neural-network-based fuzzy classifier. IEEE Transactions on Systems, Man, and Cybernetics, 1995, 25, 353-361.	0.9	87
10	Global convergence and suppression of spurious states of the Hopfield neural networks. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1993, 40, 246-257.	0.1	74
11	Decision-tree-based multiclass support vector machines. , 0, , .		73
12	Theories on the Hopfield neural networks. , 1989, , .		71
13	Fuzzy support vector machines for multilabel classification. Pattern Recognition, 2015, 48, 2110-2117.	8.1	69
14	Pattern Classification. , 2001, , .		60
15	Solving inequality constrained combinatorial optimization problems by the hopfield neural networks. Neural Networks, 1992, 5, 663-670.	5.9	56
16	A novel approach to feature selection based on analysis of class regions. IEEE Transactions on Systems, Man, and Cybernetics, 1997, 27, 196-207.	5.0	55
17	Function approximation based on fuzzy rules extracted from partitioned numerical data. IEEE Transactions on Systems, Man, and Cybernetics, 1999, 29, 525-534.	5.0	50
18	Incremental training of support vector machines using hyperspheres. Pattern Recognition Letters, 2006, 27, 1495-1507.	4.2	40

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19	Feature Selection and Extraction. <i>Advances in Computer Vision and Pattern Recognition</i> , 2010, , 331-341.	1.3	40
20	Sparse least squares support vector training in the reduced empirical feature space. <i>Pattern Analysis and Applications</i> , 2007, 10, 203-214.	4.6	38
21	Dynamic cluster generation for a fuzzy classifier with ellipsoidal regions. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 1998, 28, 869-876.	5.0	37
22	Load Flow Convergence in the Vicinity of a Voltage Stability Limit. <i>IEEE Transactions on Power Apparatus and Systems / Technical Operations Committee</i> , 1978, PAS-97, 1983-1993.	0.4	33
23	<i>Neural Networks and Fuzzy Systems</i> . , 1997, , .		33
24	Input layer optimization of neural networks by sensitivity analysis and its application to recognition of numerals. <i>Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi)</i> , 1991, 111, 130-138.	0.4	32
25	Training of Support Vector Machines with Mahalanobis Kernels. <i>Lecture Notes in Computer Science</i> , 2005, , 571-576.	1.3	32
26	Fusing sequential minimal optimization and Newton's method for support vector training. <i>International Journal of Machine Learning and Cybernetics</i> , 2016, 7, 345-364.	3.6	28
27	Tuning of a fuzzy classifier derived from data. <i>International Journal of Approximate Reasoning</i> , 1996, 14, 1-24.	3.3	25
28	A fuzzy classifier with ellipsoidal regions for diagnosis problems. <i>IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews</i> , 1999, 29, 140-148.	2.9	24
29	Comparison between error correcting output codes and fuzzy support vector machines. <i>Pattern Recognition Letters</i> , 2005, 26, 1937-1945.	4.2	24
30	Global convergence of the Hopfield neural network with nonzero diagonal elements. <i>IEEE Transactions on Circuits and Systems Part 2: Express Briefs</i> , 1995, 42, 39-45.	2.2	23
31	Determination of power system voltage stability. Part I: Theory. <i>Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi)</i> , 1976, 96, 70-77.	0.4	22
32	Unconstrained large margin distribution machines. <i>Pattern Recognition Letters</i> , 2017, 98, 96-102.	4.2	20
33	<i>High performance integrated Prolog processor IPP</i> . , 1987, , .		19
34	Fuzzy function approximators with ellipsoidal regions. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 1999, 29, 654-661.	5.0	18
35	Decomposition techniques for training linear programming support vector machines. <i>Neurocomputing</i> , 2009, 72, 973-984.	5.9	18
36	Fast Training of Support Vector Machines by Extracting Boundary Data. <i>Lecture Notes in Computer Science</i> , 2001, , 308-313.	1.3	18

#	ARTICLE	IF	CITATIONS
37	Feature selection by analyzing class regions approximated by ellipsoids. IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews, 1998, 28, 282-287.	2.9	17
38	KPCA-based training of a kernel fuzzy classifier with ellipsoidal regions. International Journal of Approximate Reasoning, 2004, 37, 189-217.	3.3	17
39	Extracting algorithms from pattern classification neural networks. Neural Networks, 1993, 6, 729-735.	5.9	15
40	Incremental learning for online face recognition. , 0, , .		15
41	Convergence acceleration of the Hopfield neural network by optimizing integration step sizes. IEEE Transactions on Systems, Man, and Cybernetics, 1996, 26, 194-201.	5.0	14
42	An Efficient Incremental Kernel Principal Component Analysis for Online Feature Selection. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	14
43	An Incremental Learning Algorithm of Ensemble Classifier Systems. , 2006, , .		13
44	Kernel discriminant analysis based feature selection. Neurocomputing, 2008, 71, 2544-2552.	5.9	13
45	Analysis of support vector machines. , 0, , .		12
46	Multiclass Support Vector Machines. Advances in Computer Vision and Pattern Recognition, 2010, , 113-161.	1.3	12
47	A reinforcement learning algorithm for neural networks with incremental learning ability. , 2002, , .		11
48	Subspace-based support vector machines for pattern classification. Neural Networks, 2009, 22, 558-567.	5.9	11
49	Sparse Least Squares Support Vector Regressors Trained in the Reduced Empirical Feature Space. Lecture Notes in Computer Science, 2007, , 527-536.	1.3	10
50	Why pairwise is better than one-against-all or all-at-once. , 0, , .		9
51	Backward Variable Selection of Support Vector Regressors by Block Deletion. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	9
52	A Fast Incremental Kernel Principal Component Analysis for Online Feature Extraction. Lecture Notes in Computer Science, 2010, , 487-497.	1.3	9
53	Convergence of the Hopfield neural networks with inequality constraints. , 1990, , .		7
54	Tuning membership functions of kernel fuzzy classifiers by maximizing margins. Memetic Computing, 2009, 1, 221-228.	4.0	7

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55	Two-Class Support Vector Machines. Advances in Computer Vision and Pattern Recognition, 2010, , 21-112.	1.3	7
56	Feature Extraction Using Support Vector Machines. Lecture Notes in Computer Science, 2010, , 108-115.	1.3	7
57	Feature selection and fast training of subspace based support vector machines. , 2010, , .		6
58	Analyzing Minimal Complexity Machines. , 2019, , .		6
59	Feature Selection Based on Kernel Discriminant Analysis. Lecture Notes in Computer Science, 2006, , 282-291.	1.3	6
60	Fast Variable Selection by Block Addition and Block Deletion. Journal of Intelligent Learning Systems and Applications, 2010, 02, 200-211.	0.5	6
61	DETERMINING WEIGHTS OF THE HOPFIELD NEURAL NETWORKS. , 1991, , 1507-1510.		6
62	Synthesizing neural networks for pattern recognition. , 1991, , .		5
63	A genetic algorithm approach to multi-objective scheduling problems with earliness and tardiness penalties. , 0, , .		5
64	Fast Training of Linear Programming Support Vector Machines Using Decomposition Techniques. Lecture Notes in Computer Science, 2006, , 165-176.	1.3	5
65	Variants of Support Vector Machines. Advances in Computer Vision and Pattern Recognition, 2010, , 163-226.	1.3	5
66	Batch Support Vector Training Based on Exact Incremental Training. Lecture Notes in Computer Science, 2008, , 295-304.	1.3	5
67	Initial value selection of load flow calculations in the vicinity of a voltage stability limit. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 1977, 97, 60-69.	0.4	4
68	Robust function approximation using fuzzy rules with ellipsoidal regions. , 2000, , .		4
69	Boosting Kernel Discriminant Analysis with Adaptive Kernel Selection. , 2005, , 429-432.		4
70	Minimal Complexity Support Vector Machines for Pattern Classification. Computers, 2020, 9, 88.	3.3	4
71	Is Primal Better Than Dual. Lecture Notes in Computer Science, 2009, , 854-863.	1.3	4
72	Minimal Complexity Support Vector Machines. Lecture Notes in Computer Science, 2020, , 89-101.	1.3	4

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73	Extraction of Fuzzy Rules for Classification Based on Partitioned Hyperboxes. Journal of Intelligent and Fuzzy Systems, 1996, 4, 215-226.	1.4	3
74	Maximizing margins of multilayer neural networks. , 0, , .		3
75	Subspace based least squares support vector machines for pattern classification. , 2009, , .		3
76	Optimizing working sets for training support vector regressors by Newton's method. , 2015, , .		3
77	Effect of Equality Constraints to Unconstrained Large Margin Distribution Machines. Lecture Notes in Computer Science, 2018, , 41-53.	1.3	3
78	Soft Upper-bound Minimal Complexity LP SVMs. , 2021, , .		3
79	Improving Generalization Abilities of Maximal Average Margin Classifiers. Lecture Notes in Computer Science, 2016, , 29-41.	1.3	3
80	Sparse Least Squares Support Vector Machines by Forward Selection Based on Linear Discriminant Analysis. Lecture Notes in Computer Science, 2008, , 54-65.	1.3	3
81	Fuzzy Classifiers Based on Kernel Discriminant Analysis. Lecture Notes in Computer Science, 2007, , 180-189.	1.3	3
82	Feature Selection by Block Addition and Block Deletion. Lecture Notes in Computer Science, 2012, , 48-59.	1.3	3
83	Modeling and Genetic Solution for Scheduling Problems with Regular and Non-Regular Objective Functions. Transactions of the Society of Instrument and Control Engineers, 1999, 35, 662-667.	0.2	3
84	Learning by parallel forward propagation. , 1990, , .		2
85	Sparse kernel feature analysis using FastMap and its variants. , 2009, , .		2
86	Subspace based linear programming support vector machines. , 2009, , .		2
87	Sparse support vector regressors based on forward basis selection. , 2009, , .		2
88	A new approach to discover interlacing data structures in high-dimensional space. Journal of Intelligent Information Systems, 2009, 33, 3-22.	3.9	2
89	Improved Parameter Tuning Algorithms for Fuzzy Classifiers. Lecture Notes in Computer Science, 2009, , 937-944.	1.3	2
90	Convergence improvement of active set support vector training. , 2010, , .		2

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91	Kernel-Based Methods Kernel@Kernel-based method. Advances in Computer Vision and Pattern Recognition, 2010, , 305-329.	1.3	2
92	Convergence Improvement of Active Set Training for Support Vector Regressors. Lecture Notes in Computer Science, 2010, , 1-10.	1.3	2
93	Incremental Learning Algorithm for Feedforward Neural Network with Long-Term Memory. Transactions of the Society of Instrument and Control Engineers, 2002, 38, 792-799.	0.2	2
94	Dependency of Generalization Capability for a Multi-Layered Neural Network on its Number of Hidden Units.. IEEJ Transactions on Industry Applications, 1993, 113, 341-348.	0.2	2
95	Determination of power system voltage stability. Part 2: Digital simulation. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 1976, 96, 78-86.	0.4	1
96	Determination of Power System Voltage Stability Part 3: Dynamical Approach. Systems and Computers in Japan, 1983, 103, 57-65.	0.2	1
97	Training neural net classifier to improve generalization capability. Systems and Computers in Japan, 1994, 25, 101-110.	0.2	1
98	Training of support vector regressors based on the steepest ascent method. , 0, , .		1
99	SVM ensembles for selecting the relevant feature subsets. , 0, , .		1
100	Determination of Power System Voltage Stability Part 3: Dynamical Approach. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 1983, 103, 57-65.	0.4	1
101	Feature Selection by Iterative Block Addition and Block Deletion. , 2013, , .		1
102	Function Approximation. Advances in Computer Vision and Pattern Recognition, 2010, , 395-442.	1.3	1
103	Fast Support Vector Training by Newton's Method. Lecture Notes in Computer Science, 2011, , 143-150.	1.3	1
104	Training Mahalanobis Kernels by Linear Programming. Lecture Notes in Computer Science, 2012, , 339-346.	1.3	1
105	A Learning Algorithm of Boosting Kernel Discriminant Analysis for Pattern Recognition. IEICE Transactions on Information and Systems, 2007, E90-D, 1853-1863.	0.7	1
106	Input layer optimization of neural networks by sensitivity analysis and its application to recognition of numerals.. IEEJ Transactions on Industry Applications, 1991, 111, 36-44.	0.2	1
107	A Fuzzy Classifier with Polyhedral Regions. Transactions of the Institute of Systems Control and Information Engineers, 2001, 14, 364-371.	0.1	1
108	Improvement of Generalization Ability of Multiclass Support Vector Machines by Introducing Fuzzy Logic and Bayes Theory. Transactions of the Institute of Systems Control and Information Engineers, 2002, 15, 643-651.	0.1	1

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109	High Speed Training of a Fuzzy Classifier with Polyhedral Regions. Transactions of the Institute of Systems Control and Information Engineers, 2002, 15, 673-680.	0.1	1
110	Steepest Ascent Training of Support Vector Regressors. IEJ Transactions on Electronics, Information and Systems, 2004, 124, 2064-2071.	0.2	1
111	Transactions of the Institute of Systems Control and Information Engineers, 2002, 15, 673-680.		
112	Incremental Input Variable Selection by Block Addition and Block Deletion. Lecture Notes in Computer Science, 2014, , 547-554.	1.3	1
113	Determining Optimal Number of Hidden Units for Multi-Layered Neural Networks.. IEJ Transactions on Industry Applications, 1992, 112, 1064-1070.	0.2	1
114	Techniques in Fuzzy Rules Determination and Their Application to Pattern Classification. , 1999, , 1051-1079.		1
115	Determination of steady-state switching sequence of power networks. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 1977, 97, 95-102.	0.4	0
116	Power System Voltage Stability. IEEE Power Engineering Review, 1982, PER-2, 39-40.	0.1	0
117	A method for fuzzy rules extraction directly from numerical data. , 0, , .		0
118	LSI module placement by the Hopfield neural network. , 1995, , .		0
119	LSI module placement using the kohonen network. Systems and Computers in Japan, 1996, 27, 92-105.	0.2	0
120	Fast feature selection by analyzing class regions approximated by ellipsoids. , 2000, , .		0
121	Training three-layer neural network classifiers by solving inequalities. , 2000, , .		0
122	An online face recognition system with incremental learning ability. , 2007, , .		0
123	Boosting Kernel Discriminant Analysis for pattern classification. , 2007, , .		0
124	Feature selection based on kernel discriminant analysis for multi-class problems. , 2008, , .		0
125	Sparse support vector machines trained in the reduced empirical feature space. , 2008, , .		0
126	Mining interlacing manifolds in high dimensional spaces. , 2011, , .		0

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127	Multiple Nonlinear Subspace Methods Using Subspace-based Support Vector Machines. , 2011, , ,		0
128	Comments on: Support vector machines maximizing geometric margins for multi-class classification. Top, 2014, 22, 841-843.	1.6	0
129	Are twin hyperplanes necessary?. Pattern Recognition Letters, 2018, 116, 218-224.	4.2	0
130	A Fuzzy Classifier with Pyramidal Membership Functions. Studies in Fuzziness and Soft Computing, 2003, , 234-248.	0.8	0
131	How to Write and Present Papers. IEEJ Transactions on Electronics, Information and Systems, 2005, 125, 1-6.	0.2	0
132	Maximum-Margin Fuzzy Classifiers. Advances in Computer Vision and Pattern Recognition, 2010, , 367-394.	1.3	0
133	Maximum-Margin Multilayer Neural Networks. Advances in Computer Vision and Pattern Recognition, 2010, , 353-366.	1.3	0
134	Training Methods. Advances in Computer Vision and Pattern Recognition, 2010, , 227-303.	1.3	0
135	Evaluation of Feature Selection by Multiclass Kernel Discriminant Analysis. Lecture Notes in Computer Science, 2010, , 13-24.	1.3	0
136	Incremental Feature Selection by Block Addition and Block Deletion Using Least Squares SVRs. Lecture Notes in Computer Science, 2014, , 35-46.	1.3	0
137	Determination of Power System Voltage Stability, Part 2: Digital Simulation. IEEJ Transactions on Power and Energy, 1976, 96, 179-186.	0.2	0
138	Determination of Power System Voltage Stability, Part 1: Theory. IEEJ Transactions on Power and Energy, 1976, 96, 171-178.	0.2	0
139	Initial Value Selection of Load Flow Calculations in the Vicinity of a Voltage Stability Limit. IEEJ Transactions on Power and Energy, 1977, 97, 23-30.	0.2	0
140	Determination of Power System Voltage Stability, Part 3: Dynamical Approach. IEEJ Transactions on Power and Energy, 1983, 103, 349-356.	0.2	0