Lei Xu

List of Publications by Year
in descending order

128 papers	3,323 citations	394286 19 h-index	161767 54 g-index
128 all docs	128 docs citations	128 times ranked	1972 citing authors

#	Article	IF	Citations
1	A new curve detection method: Randomized Hough transform (RHT). Pattern Recognition Letters, 1990, 11, 331-338.	2.6	897
2	On Convergence Properties of the EM Algorithm for Gaussian Mixtures. Neural Computation, 1996, 8, 129-151.	1.3	557
3	Least mean square error reconstruction principle for self-organizing neural-nets. Neural Networks, 1993, 6, 627-648.	3.3	326
4	Convergence results for the EM approach to mixtures of experts architectures. Neural Networks, 1995, 8, 1409-1431.	3.3	207
5	BYY harmony learning, structural RPCL, and topological self-organizing on mixture models. Neural Networks, 2002, 15, 1125-1151.	3.3	100
6	RBF nets, mixture experts, and Bayesian Ying–Yang learning. Neurocomputing, 1998, 19, 223-257.	3.5	98
7	Radar HRRP Statistical Recognition With Local Factor Analysis by Automatic Bayesian Ying-Yang Harmony Learning. IEEE Transactions on Signal Processing, 2011, 59, 610-617.	3.2	75
8	BYY harmony learning, independent state space, and generalized APT financial analyses. IEEE Transactions on Neural Networks, 2001, 12, 822-849.	4.8	68
9	Sequencing-based approach identified three new susceptibility loci for psoriasis. Nature Communications, 2014, 5, 4331.	5.8	67
10	Causal Inference. Engineering, 2020, 6, 253-263.	3.2	65
11	Temporal BYY learning for state space approach, hidden Markov model, and blind source separation. IEEE Transactions on Signal Processing, 2000, 48, 2132-2144.	3.2	61
12	A unified perspective and new results on RHT computing, mixture based learning, and multi-learner based problem solving. Pattern Recognition, 2007, 40, 2129-2153.	5.1	47
13	Bayesian Ying-Yang system, best harmony learning, and five action circling. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2010, 5, 281-328.	0.6	47
14	Advances on BYY Harmony Learning: Information Theoretic Perspective, Generalized Projection Geometry, and Independent Factor Autodetermination. IEEE Transactions on Neural Networks, 2004, 15, 885-902.	4.8	44
15	Data smoothing regularization, multi-sets-learning, and problem solving strategies. Neural Networks, 2003, 16, 817-825.	3.3	39
16	A PCA approach for fast retrieval of structural patterns in attributed graphs. IEEE Transactions on Systems, Man, and Cybernetics, 2001, 31, 812-817.	5.5	34
17	An overview and perspectives on bidirectional intelligence: Lmser duality, double IA harmony, and causal computation. IEEE/CAA Journal of Automatica Sinica, 2019, 6, 865-893.	8.5	26
18	Yet another algorithm which can generate topography map. IEEE Transactions on Neural Networks, 1997, 8, 1204-1207.	4.8	25

#	Article	IF	Citations
19	Rival penalized competitive learning, finite mixture, and multisets clustering. , 0, , .		22
20	Independent component analysis by the information-theoretic approach with mixture of densities. , 0, , .		21
21	On essential topics of BYY harmony learning: Current status, challenging issues, and gene analysis applications. Frontiers of Electrical and Electronic Engineering, 2012, 7, 147-196.	0.4	21
22	Arbitrage pricing theory-based Gaussian temporal factor analysis for adaptive portfolio management. Decision Support Systems, 2004, 37, 485-500.	3.5	20
23	An extended asld trading system to enhance portfolio management. IEEE Transactions on Neural Networks, 2003, 14, 413-425.	4.8	19
24	Radar HRRP statistical recognition with temporal factor analysis by automatic Bayesian Ying-Yang harmony learning. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2011, 6, 300-317.	0.6	16
25	Deep Rival Penalized Competitive Learning for low-resolution face recognition. Neural Networks, 2022, 148, 183-193.	3.3	15
26	A globally convergent Lagrange and barrier function iterative algorithm for the traveling salesman problem. Neural Networks, 2001, 14, 217-230.	3.3	14
27	Parameterizations make different model selections: Empirical findings from factor analysis. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2011, 6, 256-274.	0.6	14
28	Deep bidirectional intelligence: AlphaZero, deep IA-search, deep IA-infer, and TPC causal learning. Applied Informatics, 2018, 5, .	0.5	14
29	Adaptive Rival Penalized Competitive Learning and Combined Linear Predictor Model for Financial Forecast and Investment. International Journal of Neural Systems, 1997, 08, 517-534.	3.2	13
30	A Further Result on the ICA One-Bit-Matching Conjecture. Neural Computation, 2005, 17, 331-334.	1.3	13
31	Learning Gaussian mixture with automatic model selection: A comparative study on three Bayesian related approaches. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2011, 6, 215-244.	0.6	13
32	An RPCL-based approach for Markov model identification with unknown state number. IEEE Signal Processing Letters, 2000, 7, 284-287.	2.1	12
33	One-Bit-Matching Theorem for ICA, Convex-Concave Programming on Polyhedral Set, and Distribution Approximation for Combinatorics. Neural Computation, 2007, 19, 546-569.	1.3	12
34	An empirical method to select dominant independent components in ICA for time series analysis. , 0, , .		11
35	Machine learning problems from optimization perspective. Journal of Global Optimization, 2010, 47, 369-401.	1.1	11
36	Rival penalized competitive learning. Scholarpedia Journal, 2007, 2, 1810.	0.3	11

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37	A Barrier Function Method for the Nonconvex Quadratic Programming Problem with Box Constraints. Journal of Global Optimization, 2000, 18, 165-188.	1.1	10
38	A Lagrange Multiplier and Hopfield-Type Barrier Function Method for the Traveling Salesman Problem. Neural Computation, 2002, 14, 303-324.	1.3	10
39	An investigation of several typical model selection criteria for detecting the number of signals. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2011, 6, 245-255.	0.6	10
40	Phosphoglucose isomerase gene expression as a prognostic biomarker of gastric cancer. Chinese Journal of Cancer Research: Official Journal of China Anti-Cancer Association, Beijing Institute for Cancer Research, 2019, 31, 771-784.	0.7	10
41	GAN Flexible Lmser for Super-resolution. , 2019, , .		9
42	Title is missing!. Neural Processing Letters, 1997, 6, 69-76.	2.0	8
43	Temporal Bayesian Ying-Yang dependence reduction, blind source separation and principal independent components. , 0, , .		8
44	Machine learning and intelligence science: Sino-foreign interchange workshop IScIDE2010 (A). Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2011, 6, 1-5.	0.6	8
45	A binary matrix factorization algorithm for protein complex prediction. Proteome Science, 2011, 9, S18.	0.7	8
46	A new multivariate test formulation: theory, implementation, and applications to genome-scale sequencing and expression. Applied Informatics, 2016, 3, .	0.5	8
47	Using rival penalized competitive clustering for feature indexing in Hong Kong's textile and fashion image database. , 0, , .		7
48	Convergence analysis of rival penalized competitive learning (RPCL) algorithm. , 0, , .		7
49	Medical data mining model for oriental medicine via BYY Binary Independent Factor Analysis. , 0, , .		7
50	A Comparative Investigation on Model Selection in Independent Factor Analysis. Mathematical Modelling and Algorithms, 2006, 5, 447-473.	0.5	7
51	Bi-linear matrix-variate analyses, integrative hypothesis tests, and case-control studies. Applied Informatics, 2015, 2, .	0.5	7
52	Machine learning and causal analyses for modeling financial and economic data. Applied Informatics, 2018, 5, .	0.5	7
53	Bayesian Ying-Yang learning based ICA models. , 0, , .		6
54	Bayesian ying-yang theory for empirical learning, regularization and model selection: general formulation. , 0, , .		6

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55	Data mining, unsupervised learning and Bayesian ying-yang theory. , 0, , .		6
56	Temporal BYY learning and its applications to extended Kalman filtering, hidden Markov model, and sensor-motor integration. , 0, , .		6
57	Letter to the Editor: RIVAL PENALIZED COMPETITIVE LEARNING BASED APPROACH FOR DISCRETE-VALUED SOURCE SEPARATION. International Journal of Neural Systems, 2000, 10, 483-490.	3.2	6
58	New Sharpe-ratio-related methods for portfolio selection. , 0, , .		6
59	Further advances on Bayesian Ying-Yang harmony learning. Applied Informatics, 2015, 2, .	0.5	6
60	An application of independent component analysis in the arbitrage pricing theory. , 2000, , .		5
61	Investigations on Non-Gaussian Factor Analysis. IEEE Signal Processing Letters, 2004, 11, 597-600.	2.1	5
62	Adaptive Rival Penalized Competitive Learning and Combined Linear Predictor with application to financial investment. , 0, , .		4
63	LEARNING MULTIPLE CAUSES BY COMPETITION ENHANCED LEAST MEAN SQUARE ERROR RECONSTRUCTION. International Journal of Neural Systems, 1996, 07, 223-236.	3.2	4
64	Separation of two independent sources by the information-theoretic approach with cubic nonlinearity. , 0, , .		4
65	Adaptive supervised learning decision networks for traders and portfolios. , 0, , .		4
66	A study of several model selection criteria for determining the number of signals. , 2010, , .		4
67	Deep IA-BI and Five Actions in Circling. Lecture Notes in Computer Science, 2019, , 1-21.	1.0	4
68	A binary matrix factorization algorithm for protein complex prediction. , 2010, , .		3
69	Detection of Phenotype-Related Mutations of COVID-19 via the Whole Genomic Data. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021, 18, 1242-1249.	1.9	3
70	Application of adaptive RPCL-CLP with trading system to foreign exchange investment. , 0, , .		2
71	BYY dependence reduction theory and blind source separation. , 0, , .		2
72	BKYY dimension reduction and determination. , 0, , .		2

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73	BYY data smoothing based learning on a small size of samples. , 0, , .		2
74	Bayesian ying-yang supervised learning, modular models, and three layer nets. , 0, , .		2
75	Further improvement of adaptive supervised learning decision (ASLD) network in stock market. , 0, , .		2
76	Modeling macroeconomic indexes from S&P 500 stocks via arbitrage pricing theory and temporary factor analysis. , 0, , .		2
77	BYY harmony learning, local independent analyses, and APT financial applications. , 0, , .		2
78	An adaptive BYY harmony learning algorithm and its relation to rewarding and penalizing competitive learning mechanism. , 0, , .		2
79	NFA FOR FACTOR NUMBER DETERMINATION IN APT. International Journal of Theoretical and Applied Finance, 2004, 07, 253-267.	0.2	2
80	Transcription Network Analysis by A Sparse Binary Factor Analysis Algorithm. Journal of Integrative Bioinformatics, 2012, 9, 68-79.	1.0	2
81	Comparative studies on multivariate tests for joint-SNVs analysis and detection for bipolar disorder susceptibility genes. International Journal of Data Mining and Bioinformatics, 2017, 17, 341.	0.1	2
82	Learning deep IA bidirectional intelligence. Frontiers of Information Technology and Electronic Engineering, 2020, 21, 558-562.	1.5	2
83	Controllable stroke-based sketch synthesis from a self-organized latent space. Neural Networks, 2021, 137, 138-150.	3.3	2
84	A Comparative Study of Joint-SNVs Analysis Methods and Detection of Susceptibility Genes for Gastric Cancer in Korean Population. Lecture Notes in Computer Science, 2017, , 619-630.	1.0	2
85	Revisit Lmser from a Deep Learning Perspective. Lecture Notes in Computer Science, 2019, , 197-208.	1.0	2
86	New advances on Bayesian Ying-Yang learning system with Kullback and non-Kullback separation functionals. , 0, , .		2
87	Flexible-CLmser: Regularized Feedback Connections for Biomedical Image Segmentation. , 2021, , .		2
88	An experimental comparison of the Bayesian Ying-Yang criteria and cross validation for selection on number of hidden units in feedforward networks. , 0, , .		1
89	Channel equalization by finite mixtures and the EM algorithm. , 0, , .		1
90	Trading mechanisms and return volatility: empirical investigation on Shanghai Stock Exchange based on a neural network model. , 0, , .		1

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91	Application of adaptive RPCL-CLP with trading system to foreign exchange investment. , 0, , .		1
92	An experimental comparative study on several soft and hard-cut EM algorithms for mixture of experts. , 0, , .		1
93	Cointegration by MCA and modular MCA. , 0, , .		1
94	Relationship between mixture of experts and ensemble neural networks. , 0, , .		1
95	Temporal factor analysis (TFA): stable-identifiable family, orthogonal flow learning, and automated model selection. , 0, , .		1
96	On generalized arbitrage pricing theory analysis: empirical investigation of the macroeconomics modulated independent state-space model. , 0, , .		1
97	An iterative algorithm for BYY learning on Gaussian mixture with automated model selection. , 2003, , .		1
98	An annealing approach to BYY harmony learning on Gaussian mixture with automated model selection. , 2003, , .		1
99	A5 problem solving paradigm: a unified perspective and new results on RHT computing, mixture based learning, and evidence combination. , 2005, , .		1
100	Gene clustering by structural prior based local factor analysis model under Bayesian Ying-Yang harmony learning. , 2010, , .		1
101	Radar HRRP statistical recognition with Local Factor Analysis by automatic Bayesian Ying Yang harmony learning. , 2010, , .		1
102	Machine learning and intelligence science: IScIDE (C). Frontiers of Electrical and Electronic Engineering, 2012, 7, 1-4.	0.4	1
103	A two-variate phenotype-targeted test for detection of phenotypic biomarkers on breast cancer. , 2019, , .		1
104	Deep CNN Based Lmser and Strengths of Two Built-In Dualities. Neural Processing Letters, 2022, 54, 3565-3581.	2.0	1
105	A Consistency Enhanced Deep Lmser Network for Face Sketch Synthesis. Lecture Notes in Computer Science, 2021, , 127-138.	1.0	1
106	Enriching computed tomography images by projection for robust automated cerebral aneurysm detection and segmentation. , 2021, , .		1
107	Bayesian Ying-Yang harmony learning, information theory and information geometry. , 0, , .		0
108	Local subspace analysis for astronomical object detection and star/galaxy classification. , 0, , .		0

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109	Least Mean Square Error Reconstruction Learning in Recurrent Network. , 0, , .		0
110	Some further studies on detection the number of clusters. , 0, , .		0
111	Application of Bayesian Ying-Yang criteria for selecting the number of hidden units with backpropagation learning to electrocardiogram classification. , 0, , .		0
112	Adaptive RBF net algorithms for nonlinear signal learning with applications to financial prediction and investment. , 0, , .		0
113	Autoregressive signal separation approach with seesaw-mapping technique on temporal source separation. , 0, , .		0
114	An ICA algorithm with adaptive-learned polynomial nonlinearity for signal separation. , 0, , .		0
115	On the study of BKYY cluster number selection criterion for small sample data set with bootstrap technique. , 0, , .		0
116	A RPLC-based approach for identification of Markov model with unknown noise and number of states. , 2000, , .		0
117	Adaptive improved portfolio Sharpe ratio maximization with diversification. , 2000, , .		0
118	BYY binary independent systems, unsupervised harmony learning, and data mining of production rules. , 0, , .		0
119	A comparative study of Gaussian TFA learning and statistical tests on the factor number in APT. , 0, , .		0
120	Number of statistical independent factors in arbitrage pricing theory from the perspective of non-Gaussian factor analysis. , 0, , .		0
121	Topological local principal component analysis. , 0, , .		0
122	Data-smoothing regularization, normalization regularization, and c.ompetition-penalty mechanism for statistical learning and multi-agents. , 0, , .		0
123	Distribution approximation, combinatorial optimization, and Lagrange-Barrier. , 0, , .		0
124	Fundamentals, Challenges, and Advances of Statistical Learning for Knowledge Discovery and Problem Solving: A BYY Harmony Perspective. , 0, , .		0
125	A Unified Perspective on Advances of Independent Subspaces: Basic, Temporal, and Local Structures. , 2007, , .		0
126	Emerging themes on information theory and Bayesian approach. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2010, 5, 237-240.	0.6	0

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127	Machine learning and intelligence science: Sino-foreign-interchange workshop on IScIDE2010 (B). Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2011, 6, 191-191.	0.6	0
128	INDEPENDENT COMPONENT ANALYSIS: THE ONE-BIT-MATCHING CONJECTURE AND A SIMPLIFIED LPM-ICA ALGORITHM. , 2003, , .		0