

# Byoung-Tak Zhang

## List of Publications by Year in descending order

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134  
papers

4,086  
citations

331538

21  
h-index

133188

59  
g-index

139  
all docs

139  
docs citations

139  
times ranked

4437  
citing authors

#	ARTICLE	IF	CITATIONS
1	Molecular Basis for the Recognition of Primary microRNAs by the Drosha-DGCR8 Complex. <i>Cell</i> , 2006, 125, 887-901.	13.5	1,336
2	Balancing Accuracy and Parsimony in Genetic Programming. <i>Evolutionary Computation</i> , 1995, 3, 17-38.	2.3	200
3	Human microRNA prediction through a probabilistic co-learning model of sequence and structure. <i>Nucleic Acids Research</i> , 2005, 33, 3570-3581.	6.5	200
4	miTarget: microRNA target gene prediction using a support vector machine. <i>BMC Bioinformatics</i> , 2006, 7, 411.	1.2	195
5	Discovery of microRNA mRNA modules via population-based probabilistic learning. <i>Bioinformatics</i> , 2007, 23, 1141-1147.	1.8	164
6	Multiobjective Evolutionary Optimization of DNA Sequences for Reliable DNA Computing. <i>IEEE Transactions on Evolutionary Computation</i> , 2005, 9, 143-158.	7.5	153
7	Solving traveling salesman problems with DNA molecules encoding numerical values. <i>BioSystems</i> , 2004, 78, 39-47.	0.9	120
8	Effective mixing in a microfluidic chip using magnetic particles. <i>Lab on A Chip</i> , 2009, 9, 479-482.	3.1	95
9	Identification of biochemical networks by S-tree based genetic programming. <i>Bioinformatics</i> , 2006, 22, 1631-1640.	1.8	87
10	Deep ECGNet: An Optimal Deep Learning Framework for Monitoring Mental Stress Using Ultra Short-Term ECG Signals. <i>Telemedicine Journal and E-Health</i> , 2018, 24, 753-772.	1.6	87
11	Evolutionary Induction of Sparse Neural Trees. <i>Evolutionary Computation</i> , 1997, 5, 213-236.	2.3	83
12	DeepStory: Video Story QA by Deep Embedded Memory Networks. , 2017, , .		77
13	Hypernetworks: A Molecular Evolutionary Architecture for Cognitive Learning and Memory. <i>IEEE Computational Intelligence Magazine</i> , 2008, 3, 49-63.	3.4	73
14	ProMiR II: a web server for the probabilistic prediction of clustered, nonclustered, conserved and nonconserved microRNAs. <i>Nucleic Acids Research</i> , 2006, 34, W455-W458.	6.5	68
15	Integrated analysis of genome-wide DNA methylation and gene expression profiles in molecular subtypes of breast cancer. <i>Nucleic Acids Research</i> , 2013, 41, 8464-8474.	6.5	57
16	Multimodal Dual Attention Memory for Video Story Question Answering. <i>Lecture Notes in Computer Science</i> , 2018, , 698-713.	1.0	44
17	Text filtering by boosting naive Bayes classifiers. , 2000, , .		43
18	ACCELERATED LEARNING BY ACTIVE EXAMPLE SELECTION. <i>International Journal of Neural Systems</i> , 1994, 05, 67-75.	3.2	41

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19	Personalized web-document filtering using reinforcement learning. Applied Artificial Intelligence, 2001, 15, 665-685.	2.0	40
20	Team THOR's Entry in the DARPA Robotics Challenge Trials 2013. Journal of Field Robotics, 2015, 32, 315-335.	3.2	38
21	Genetic Mining of HTML Structures for Effective Web-Document Retrieval. Applied Intelligence, 2003, 18, 243-256.	3.3	37
22	Hypergraph Attention Networks for Multimodal Learning. , 2020, , .		33
23	Co-trained support vector machines for large scale unstructured document classification using unlabeled data and syntactic information. Information Processing and Management, 2004, 40, 421-439.	5.4	31
24	Survey of computational haplotype determination methods for single individual. Genes and Genomics, 2016, 38, 1-12.	0.5	29
25	Applying Machine Learning Techniques to Analysis of Gene Expression Data: Cancer Diagnosis. , 2002, , 167-182.		27
26	A Bayesian framework for evolutionary computation. , 0, , .		26
27	Self-Organizing Latent Lattice Models for Temporal Gene Expression Profiling. Machine Learning, 2003, 52, 67-89.	3.4	21
28	Solving traveling salesman problems using molecular programming. , 0, , .		19
29	Robust Human Following by Deep Bayesian Trajectory Prediction for Home Service Robots. , 2018, , .		19
30	System identification using evolutionary Markov chain Monte Carlo. Journal of Systems Architecture, 2001, 47, 587-599.	2.5	18
31	Evolutionary sequence generation for reliable DNA computing. , 0, , .		18
32	Simulation and real-time monitoring of polymerase chain reaction for its higher efficiency. Biochemical Engineering Journal, 2006, 29, 109-118.	1.8	18
33	In vitro molecular pattern classification via DNA-based weighted-sum operation. BioSystems, 2010, 100, 1-7.	0.9	18
34	DNA Hypernetworks for Information Storage and Retrieval. Lecture Notes in Computer Science, 2006, , 298-307.	1.0	18
35	Bayesian Model Averaging of Bayesian Network Classifiers Over Multiple Node-Orders: Application to Sparse Datasets. IEEE Transactions on Systems, Man, and Cybernetics, 2005, 35, 1302-1310.	5.5	17
36	Genetic Programming with Active Data Selection. Lecture Notes in Computer Science, 1999, , 146-153.	1.0	17

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37	The use of gold nanoparticle aggregation for DNA computing and logic-based biomolecular detection. <i>Nanotechnology</i> , 2008, 19, 395103.	1.3	16
38	Whole-Body Balancing Walk Controller for Position Controlled Humanoid Robots. <i>International Journal of Humanoid Robotics</i> , 2016, 13, 1650011.	0.6	16
39	Protein sequence-based risk classification for human papillomaviruses. <i>Computers in Biology and Medicine</i> , 2006, 36, 656-667.	3.9	15
40	Ensembled support vector machines for human papillomavirus risk type prediction from protein secondary structures. <i>Computers in Biology and Medicine</i> , 2009, 39, 187-193.	3.9	15
41	Molecular programming. , 2005, , .		14
42	Enhancing human action recognition through spatio-temporal feature learning and semantic rules. , 2013, , .		13
43	Social Network Analysis of TV Drama Characters via Deep Concept Hierarchies. , 2015, , .		13
44	Learning robot behaviors by evolving genetic programs. , 0, , .		12
45	Characteristic molecular vibrations of adenosine receptor ligands. <i>FEBS Letters</i> , 2015, 589, 548-552.	1.3	12
46	Bayesian evolutionary hypergraph learning for predicting cancer clinical outcomes. <i>Journal of Biomedical Informatics</i> , 2014, 49, 101-111.	2.5	11
47	Development, evaluation and benchmarking of simulation software for biomolecule-based computing. <i>Natural Computing</i> , 2004, 3, 427-442.	1.8	10
48	Evolving Hypernetworks for Pattern Classification. , 2007, , .		10
49	Evolving hypernetwork classifiers for microRNA expression profile analysis. , 2007, , .		10
50	AESNB: Active Example Selection with Na&#x0EF;ve Bayes Classifier for Learning from Imbalanced Biomedical Data. , 2009, , .		10
51	An evolutionary method for active learning of mobile robot path planning. , 0, , .		9
52	Analysis of Gene Expression Profiles and Drug Activity Patterns by Clustering and Bayesian Network Learning. , 2002, , 169-184.		9
53	Feature Relevance Network-Based Transfer Learning for Indoor Location Estimation. <i>IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews</i> , 2011, 41, 711-719.	3.3	9
54	Non-linear molecular pattern classification using molecular beacons with multiple targets. <i>BioSystems</i> , 2013, 114, 206-213.	0.9	9

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55	Visual Perception Framework for an Intelligent Mobile Robot. , 2020, , .		9
56	Time series prediction using committee machines of evolutionary neural trees. , 0, , .		9
57	A Bayesian evolutionary approach to the design and learning of heterogeneous neural trees. Integrated Computer-Aided Engineering, 2002, 9, 73-86.	2.5	8
58	Evolving hypernetwork models of binary time series for forecasting price movements on stock markets. , 2009, , .		8
59	DNA Implementation of Theorem Proving with Resolution Refutation in Propositional Logic. Lecture Notes in Computer Science, 2003, , 156-167.	1.0	8
60	Temporal pattern recognition using a spiking neural network with delays. , 0, , .		7
61	Continuous estimation of distribution algorithms with probabilistic principal component analysis. , 0, , .		7
62	Word Sense Disambiguation by Learning Decision Trees from Unlabeled Data. Applied Intelligence, 2003, 19, 27-38.	3.3	7
63	A Kernel Method for MicroRNA Target Prediction Using Sensible Data and Position-Based Features. , 2005, , .		7
64	Text Classifiers Evolved on a Simulated DNA Computer. , 0, , .		7
65	Biomolecular theorem proving on a chip: a novel microfluidic solution to a classical logic problem. Lab on A Chip, 2012, 12, 1841.	3.1	7
66	Dual-memory neural networks for modeling cognitive activities of humans via wearable sensors. Neural Networks, 2017, 92, 17-28.	3.3	7
67	Enzymatic Weight Update Algorithm for DNA-Based Molecular Learning. Molecules, 2019, 24, 1409.	1.7	7
68	Microarray Probe Design Using $\hat{\mu}$ -Multi-Objective Evolutionary Algorithms with Thermodynamic Criteria. Lecture Notes in Computer Science, 2006, , 184-195.	1.0	7
69	Code Optimization for DNA Computing of Maximal Cliques. , 1999, , 588-599.		7
70	Evolving neural trees for time series prediction using Bayesian evolutionary algorithms. , 0, , .		6
71	Random Hypergraph Models of Learning and Memory in Biomolecular Networks: Shorter-Term Adaptability vs. Longer-Term Persistency. , 2007, , .		6
72	Evolutionary layered hypernetworks for identifying microRNA-mRNA regulatory modules. , 2010, , .		6

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73	Building Optimal Committees of Genetic Programs. , 2000, , 231-240.		6
74	Learning-based Intrasentence Segmentation for Efficient Translation of Long Sentences. Machine Translation, 2001, 16, 151-174.	1.3	5
75	Collocation Dictionary Optimization Using WordNet and k-Nearest Neighbor Learning. Machine Translation, 2001, 16, 89-108.	1.3	5
76	An evolutionary Monte Carlo algorithm for predicting DNA hybridization. BioSystems, 2008, 91, 69-75.	0.9	5
77	A DNA assembly model of sentence generation. BioSystems, 2011, 106, 51-56.	0.9	5
78	The demand for quantitative techniques in biomedical image informatics. Biomedical Engineering Letters, 2014, 4, 319-327.	2.1	5
79	In vitro molecular machine learning algorithm via symmetric internal loops of DNA. BioSystems, 2017, 158, 1-9.	0.9	5
80	Data-driven experimental design and model development using Gaussian process with active learning. Cognitive Psychology, 2021, 125, 101360.	0.9	5
81	Version Space Learning with DNA Molecules. Lecture Notes in Computer Science, 2003, , 143-155.	1.0	5
82	Introducing the Ko Corpus of Korean Mother&#x2013;Child Interaction. Frontiers in Psychology, 2020, 11, 602623.	1.1	5
83	Multimodal Anomaly Detection based on Deep Auto-Encoder for Object Slip Perception of Mobile Manipulation Robots. , 2021, , .		5
84	Two-Step Genetic Programming for Optimization of RNA Common-Structure. Lecture Notes in Computer Science, 2004, , 73-83.	1.0	5
85	Evolutionary neural trees for modeling and predicting complex systems. Engineering Applications of Artificial Intelligence, 1997, 10, 473-483.	4.3	4
86	Genetic programming of process decomposition strategies for evolvable hardware. , 0, , .		4
87	Bayesian evolutionary algorithms for continuous function optimization. , 0, , .		4
88	Human Papillomavirus Risk Type Classification from Protein Sequences Using Support Vector Machines. Lecture Notes in Computer Science, 2006, , 57-66.	1.0	4
89	Evolutionary hypernetwork classifiers for protein-proteininteraction sentence filtering. , 2009, , .		4
90	Mutual information-based evolution of hypernetworks for brain data analysis. , 2011, , .		4

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91	Leveraging node neighborhoods and egograph topology for better bot detection in social graphs. <i>Social Network Analysis and Mining</i> , 2021, 11, 1.	1.9	4
92	An Empirical Study on Dimensionality Optimization in Text Mining for Linguistic Knowledge Acquisition. <i>Lecture Notes in Computer Science</i> , 2003, , 111-116.	1.0	4
93	Prediction of the Risk Types of Human Papillomaviruses by Support Vector Machines. <i>Lecture Notes in Computer Science</i> , 2004, , 723-731.	1.0	4
94	A Unified Bayesian Framework for Evolutionary Learning and Optimization. <i>Natural Computing Series</i> , 2003, , 393-412.	2.2	4
95	From Scratch to Sketch: Deep Decoupled Hierarchical Reinforcement Learning for Robotic Sketching Agent. , 2022, , .		4
96	Evolving complex group behaviors using genetic programming with fitness switching. <i>Artificial Life and Robotics</i> , 2000, 4, 103-108.	0.7	3
97	Biomolecular computation with molecular beacons for quantitative analysis of target nucleic acids. <i>BioSystems</i> , 2013, 111, 11-17.	0.9	3
98	Co-Attentional Transformers for Story-Based Video Understanding. , 2021, , .		3
99	A Lab-on-a-Chip Module for Bead Separation in DNA-Based Concept Learning. <i>Lecture Notes in Computer Science</i> , 2004, , 1-9.	1.0	3
100	Convergence properties of incremental Bayesian evolutionary algorithms with single Markov chains. , 0, , .		2
101	Behavior evolution of autonomous mobile robot using genetic programming based on evolvable hardware. , 0, , .		2
102	Finding Cancer-Related Gene Combinations Using a Molecular Evolutionary Algorithm. , 2007, , .		2
103	Rule-based in vitro molecular classification and visualization. <i>Biochip Journal</i> , 2013, 7, 29-37.	2.5	2
104	Evolutionary concept learning from cartoon videos by multimodal hypernetworks. , 2013, , .		2
105	Bayesian evolutionary hypernetworks for interpretable learning from high-dimensional data. <i>Applied Soft Computing Journal</i> , 2019, 81, 105477.	4.1	2
106	Computational Methods for Identification of Human microRNA Precursors. <i>Lecture Notes in Computer Science</i> , 2004, , 732-741.	1.0	2
107	Using a genetic algorithm for communication link partitioning. , 0, , .		1
108	Bayesian evolutionary algorithms for evolving neural tree models of time series data. , 0, , .		1

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109	Evolutionary calibration of sensors using genetic programming on evolvable hardware. , 0, , .		1
110	Evolutionary optimization by distribution estimation with mixtures of factor analyzers. , 0, , .		1
111	DNA sequence optimization using constrained multi-objective evolutionary algorithm. , 0, , .		1
112	Molecular immunocomputing with application to alphabetical pattern recognition mimics the characterization of ABO blood type. , 0, , .		1
113	Multiplex PCR Assay Design by Hybrid Multiobjective Evolutionary Algorithm. , 2007, , 376-385.		1
114	A Global Minimization Algorithm Based on a Geodesic of a Lagrangian Formulation of Newtonian Dynamics. Neural Processing Letters, 2007, 26, 121-131.	2.0	1
115	Ensemble Learning Based on Active Example Selection for Solving Imbalanced Data Problem in Biomedical Data. , 2009, , .		1
116	Gender classification with cortical thickness measurement from magnetic resonance imaging by using a feature selection method based on evolutionary hypernetworks. , 2009, , .		1
117	A molecular evolutionary algorithm for learning hypernetworks on simulated DNA computers. , 2011, , .		1
118	Identifying DNA Methylation Modules Associated with a Cancer by Probabilistic Evolutionary Learning. IEEE Computational Intelligence Magazine, 2018, 13, 12-19.	3.4	1
119	M2FN: Multi-step modality fusion for advertisement image assessment. Applied Soft Computing Journal, 2021, 103, 107116.	4.1	1
120	RCA-Based Detection Methods for Resolution Refutation. Lecture Notes in Computer Science, 2004, , 32-36.	1.0	1
121	Effects of selection schemes in genetic programming for time series prediction. , 0, , .		0
122	Actively searching for committees of RBF networks using Bayesian evolutionary computation. , 0, , .		0
123	Convergence properties of Bayesian evolutionary algorithms with population size greater than 1. , 0, , .		0
124	Document filtering boosted by unlabeled data. , 0, , .		0
125	Cognitive learning and the multimodal memory game: Toward human-level machine learning. , 2008, , .		0
126	Social Influence Models Based on Starbucks Networks. , 2009, , .		0



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127	Dynamic and Static Influence Models on Starbucks Networks. , 2009, , .		0
128	Evolutionary hypernetworks for learning to generate music from examples. , 2009, , .		0
129	Evolving a population code for multimodal concept learning. , 2011, , .		0
130	Molecular learning with DNA kernel machines. BioSystems, 2015, 137, 73-83.	0.9	0
131	Molecular Associative Memory with Spatial Auto-logistic Model for Pattern Recall. Procedia Computer Science, 2018, 123, 373-379.	1.2	0
132	Evolutionary Design of Neural Trees for Heart Rate Prediction. , 1998, , 93-101.		0
133	Movie Recommendation Using Co-Clustering by Infinite Relational Models. Journal of Korean Institute of Intelligent Systems, 2014, 24, 443-449.	0.0	0
134	Dinucleotide Step Parameterization of Pre-miRNAs Using Multi-objective Evolutionary Algorithms. , 2007, , 176-186.		0