

# Dongbin Zhao

## List of Publications by Year in descending order

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155  
papers

5,019  
citations

101384

36  
h-index

102304

66  
g-index

158  
all docs

158  
docs citations

158  
times ranked

3088  
citing authors

#	ARTICLE	IF	CITATIONS
1	Optimal control of unknown nonaffine nonlinear discrete-time systems based on adaptive dynamic programming. <i>Automatica</i> , 2012, 48, 1825-1832.	3.0	354
2	Adaptive sliding mode fuzzy control for a two-dimensional overhead crane. <i>Mechatronics</i> , 2005, 15, 505-522.	2.0	222
3	Computational Intelligence in Urban Traffic Signal Control: A Survey. <i>IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews</i> , 2012, 42, 485-494.	3.3	213
4	Experience Replay for Optimal Control of Nonzero-Sum Game Systems With Unknown Dynamics. <i>IEEE Transactions on Cybernetics</i> , 2016, 46, 854-865.	6.2	184
5	Event-Triggered $H_{\infty}$ Control for Continuous-Time Nonlinear System via Concurrent Learning. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2017, 47, 1071-1081.	5.9	182
6	Data-Based Adaptive Critic Designs for Nonlinear Robust Optimal Control With Uncertain Dynamics. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2016, 46, 1544-1555.	5.9	180
7	Event-Triggered Optimal Control for Partially Unknown Constrained-Input Systems via Adaptive Dynamic Programming. <i>IEEE Transactions on Industrial Electronics</i> , 2017, 64, 4101-4109.	5.2	170
8	Event-Based Robust Control for Uncertain Nonlinear Systems Using Adaptive Dynamic Programming. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2018, 29, 37-50.	7.2	155
9	Neural-Network-Based Optimal Control for a Class of Unknown Discrete-Time Nonlinear Systems Using Globalized Dual Heuristic Programming. <i>IEEE Transactions on Automation Science and Engineering</i> , 2012, 9, 628-634.	3.4	145
10	Deep Reinforcement Learning With Visual Attention for Vehicle Classification. <i>IEEE Transactions on Cognitive and Developmental Systems</i> , 2017, 9, 356-367.	2.6	143
11	A computed torque controller for uncertain robotic manipulator systems: Fuzzy approach. <i>Fuzzy Sets and Systems</i> , 2005, 154, 208-226.	1.6	137
12	Trajectory Tracking Control of Omnidirectional Wheeled Mobile Manipulators: Robust Neural Network-Based Sliding Mode Approach. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 2009, 39, 788-799.	5.5	133
13	Deep Reinforcement Learning-Based Automatic Exploration for Navigation in Unknown Environment. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2020, 31, 2064-2076.	7.2	107
14	Multi-task learning for dangerous object detection in autonomous driving. <i>Information Sciences</i> , 2018, 432, 559-571.	4.0	103
15	StarCraft Micromanagement With Reinforcement Learning and Curriculum Transfer Learning. <i>IEEE Transactions on Emerging Topics in Computational Intelligence</i> , 2019, 3, 73-84.	3.4	101
16	Reinforcement Learning and Deep Learning Based Lateral Control for Autonomous Driving [Application Notes]. <i>IEEE Computational Intelligence Magazine</i> , 2019, 14, 83-98.	3.4	100
17	Iterative Adaptive Dynamic Programming for Solving Unknown Nonlinear Zero-Sum Game Based on Online Data. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2017, 28, 714-725.	7.2	95
18	Full-range adaptive cruise control based on supervised adaptive dynamic programming. <i>Neurocomputing</i> , 2014, 125, 57-67.	3.5	81

#	ARTICLE	IF	CITATIONS
19	GrDHP: A General Utility Function Representation for Dual Heuristic Dynamic Programming. IEEE Transactions on Neural Networks and Learning Systems, 2015, 26, 614-627.	7.2	78
20	Data-Based Reinforcement Learning for Nonzero-Sum Games With Unknown Drift Dynamics. IEEE Transactions on Cybernetics, 2019, 49, 2874-2885.	6.2	78
21	Adaptive Optimal Control of Heterogeneous CACC System With Uncertain Dynamics. IEEE Transactions on Control Systems Technology, 2019, 27, 1772-1779.	3.2	78
22	MECâ€™A Near-Optimal Online Reinforcement Learning Algorithm for Continuous Deterministic Systems. IEEE Transactions on Neural Networks and Learning Systems, 2015, 26, 346-356.	7.2	71
23	Model-Free Optimal Control for Affine Nonlinear Systems With Convergence Analysis. IEEE Transactions on Automation Science and Engineering, 2015, 12, 1461-1468.	3.4	70
24	Using reinforcement learning techniques to solve continuousâ€™time nonâ€™linear optimal tracking problem without system dynamics. IET Control Theory and Applications, 2016, 10, 1339-1347.	1.2	70
25	A supervised Actorâ€™Critic approach for adaptive cruise control. Soft Computing, 2013, 17, 2089-2099.	2.1	69
26	Comprehensive comparison of online ADP algorithms for continuous-time optimal control. Artificial Intelligence Review, 2018, 49, 531-547.	9.7	66
27	Deep reinforcement learning with experience replay based on SARSA. , 2016, , .		62
28	FMRQâ€™A Multiagent Reinforcement Learning Algorithm for Fully Cooperative Tasks. IEEE Transactions on Cybernetics, 2017, 47, 1367-1379.	6.2	60
29	Data-driven adaptive dynamic programming for continuous-time fully cooperative games with partially constrained inputs. Neurocomputing, 2017, 238, 377-386.	3.5	57
30	Policy Iteration for $H_{\infty}$ Optimal Control of Polynomial Nonlinear Systems via Sum of Squares Programming. IEEE Transactions on Cybernetics, 2018, 48, 500-509.	6.2	57
31	Graph-FCN for Image Semantic Segmentation. Lecture Notes in Computer Science, 2019, , 97-105.	1.0	56
32	Artificial intelligence in tongue diagnosis: Using deep convolutional neural network for recognizing unhealthy tongue with tooth-mark. Computational and Structural Biotechnology Journal, 2020, 18, 973-980.	1.9	56
33	Control-Limited Adaptive Dynamic Programming for Multi-Battery Energy Storage Systems. IEEE Transactions on Smart Grid, 2019, 10, 4235-4244.	6.2	53
34	DHP Method for Ramp Metering of Freeway Traffic. IEEE Transactions on Intelligent Transportation Systems, 2011, 12, 990-999.	4.7	49
35	Fuzzy-Based Goal Representation Adaptive Dynamic Programming. IEEE Transactions on Fuzzy Systems, 2016, 24, 1159-1175.	6.5	43
36	Event-triggered reinforcement learning approach for unknown nonlinear continuous-time system. , 2014, , .		42

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37	Model-Free Optimal Control Based Intelligent Cruise Control with Hardware-in-the-Loop Demonstration [Research Frontier]. IEEE Computational Intelligence Magazine, 2017, 12, 56-69.	3.4	39
38	Dual Heuristic dynamic Programming for nonlinear discrete-time uncertain systems with state delay. Neurocomputing, 2014, 134, 222-229.	3.5	38
39	A pdf-Free Change Detection Test Based on Density Difference Estimation. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 324-334.	7.2	38
40	CNN-G: Convolutional Neural Network Combined With Graph for Image Segmentation With Theoretical Analysis. IEEE Transactions on Cognitive and Developmental Systems, 2021, 13, 631-644.	2.6	35
41	Self-teaching adaptive dynamic programming for Gomoku. Neurocomputing, 2012, 78, 23-29.	3.5	34
42	A neural-network-based iterative GDHP approach for solving a class of nonlinear optimal control problems with control constraints. Neural Computing and Applications, 2013, 22, 219-227.	3.2	30
43	Invariant Adaptive Dynamic Programming for Discrete-Time Optimal Control. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 3959-3971.	5.9	30
44	Highway Lane Change Decision-Making via Attention-Based Deep Reinforcement Learning. IEEE/CAA Journal of Automatica Sinica, 2022, 9, 567-569.	8.5	30
45	Online Minimax Q Network Learning for Two-Player Zero-Sum Markov Games. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 1228-1241.	7.2	29
46	Hierarchical optimal control for input-affine nonlinear systems through the formulation of Stackelberg game. Information Sciences, 2020, 517, 1-17.	4.0	24
47	BNAS: Efficient Neural Architecture Search Using Broad Scalable Architecture. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 5004-5018.	7.2	23
48	Learning Battles in ViZDoom via Deep Reinforcement Learning. , 2018, , .		22
49	Reinforcement learning control based on multi-goal representation using hierarchical heuristic dynamic programming. , 2012, , .		20
50	Neural sliding-mode load frequency controller design of power systems. Neural Computing and Applications, 2013, 22, 279-286.	3.2	20
51	LMI-Based Synthesis of String-Stable Controller for Cooperative Adaptive Cruise Control. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 4516-4525.	4.7	20
52	Improved mean shift segmentation approach for natural images. Applied Mathematics and Computation, 2007, 185, 940-952.	1.4	19
53	Control of Overhead Crane Systems by Combining Sliding Mode with Fuzzy Regulator. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 9320-9325.	0.4	19
54	Convergence analysis and application of fuzzy-HDP for nonlinear discrete-time HJB systems. Neurocomputing, 2015, 149, 124-131.	3.5	18

#	ARTICLE	IF	CITATIONS
55	Special Issue on Deep Reinforcement Learning and Adaptive Dynamic Programming. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 2038-2041.	7.2	18
56	Neural network based online traffic signal controller design with reinforcement training. , 2011, , .		17
57	Cooperative reinforcement learning for multiple units combat in starCraft. , 2017, , .		17
58	DeepSign: Deep Learning based Traffic Sign Recognition. , 2018, , .		17
59	MGRN: Graph neural network based inference in a Markov network with reinforcement learning for visual navigation. Neurocomputing, 2021, 421, 140-150.	3.5	17
60	Particle Swarn Optimized Adaptive Dynamic Programming. , 2007, , .		16
61	A visual attention based convolutional neural network for image classification. , 2016, , .		16
62	An Incremental Change Detection Test Based on Density Difference Estimation. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2017, 47, 2714-2726.	5.9	16
63	A Semi-Supervised Predictive Sparse Decomposition Based on Task-Driven Dictionary Learning. Cognitive Computation, 2017, 9, 115-124.	3.6	15
64	Event-Triggered Communication Network With Limited-Bandwidth Constraint for Multi-Agent Reinforcement Learning. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 3966-3978.	7.2	14
65	A data-based online reinforcement learning algorithm satisfying probably approximately correct principle. Neural Computing and Applications, 2015, 26, 775-787.	3.2	13
66	Synthesis of Cooperative Adaptive Cruise Control With Feedforward Strategies. IEEE Transactions on Vehicular Technology, 2020, 69, 3615-3627.	3.9	13
67	ModuleNet: Knowledge-Inherited Neural Architecture Search. IEEE Transactions on Cybernetics, 2022, 52, 11661-11671.	6.2	13
68	Boost 3-D Object Detection via Point Clouds Segmentation and Fused 3-D GloU-<i>L</i>-Loss. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 762-773.	7.2	13
69	A Kolmogorov-Smirnov Test to Detect Changes in Stationarity in Big Data * *This work was supported in part by the National Natural Science Foundation of China under Grants No. 61573353, No.61533017, and No. 61603382.. IFAC-PapersOnLine, 2017, 50, 14260-14265.	0.5	12
70	Model-Free Reinforcement Learning for Fully Cooperative Multi-Agent Graphical Games. , 2018, , .		12
71	Reinforcement Learning for Build-Order Production in StarCraft II. , 2018, , .		12
72	Enhanced Rolling Horizon Evolution Algorithm With Opponent Model Learning: Results for the Fighting Game AI Competition. IEEE Transactions on Games, 2023, 15, 5-15.	1.2	12

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73	UNMAS: Multiagent Reinforcement Learning for Unshaped Cooperative Scenarios. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 2093-2104.	7.2	12
74	Heuristic rank selection with progressively searching tensor ring network. Complex & Intelligent Systems, 2022, 8, 771-785.	4.0	11
75	Design and implementation of an adaptive cruise control system based on supervised actor-critic learning. , 2015, , .		10
76	Clique-based cooperative multiagent reinforcement learning using factor graphs. IEEE/CAA Journal of Automatica Sinica, 2014, 1, 248-256.	8.5	9
77	Move prediction in Gomoku using deep learning. , 2016, , .		9
78	A temporal-based deep learning method for multiple objects detection in autonomous driving. , 2018, , .		9
79	Vision-based control in the open racing car simulator with deep and reinforcement learning. Journal of Ambient Intelligence and Humanized Computing, 2023, 14, 15673-15685.	3.3	9
80	Deep Kalman Filter with Optical Flow for Multiple Object Tracking. , 2019, , .		9
81	Adaptive cruise control via adaptive dynamic programming with experience replay. Soft Computing, 2019, 23, 4131-4144.	2.1	9
82	Missile guidance with assisted deep reinforcement learning for head-on interception of maneuvering target. Complex & Intelligent Systems, 2022, 8, 1205-1216.	4.0	9
83	BNAS-v2: Memory-Efficient and Performance-Collapse-Prevented Broad Neural Architecture Search. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 6259-6272.	5.9	9
84	Integration of fuzzy controller with adaptive dynamic programming. , 2012, , .		8
85	Online reinforcement learning by Bayesian inference. , 2015, , .		8
86	A Gradient-Based Reinforcement Learning Algorithm for Multiple Cooperative Agents. IEEE Access, 2018, 6, 70223-70235.	2.6	8
87	BiFNet: Bidirectional Fusion Network for Road Segmentation. IEEE Transactions on Cybernetics, 2022, 52, 8617-8628.	6.2	8
88	ADP with MCTS algorithm for Gomoku. , 2016, , .		7
89	Hybrid Deep Learning Based Moving Object Detection via Motion prediction. , 2018, , .		7
90	Overview of Image Segmentation and Its Application on Free Space Detection. , 2018, , .		7

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91	Model-Free Reinforcement Learning based Lateral Control for Lane Keeping. , 2019, , .		7
92	Shift-Invariant Convolutional Network Search. , 2020, , .		7
93	Optimal Feedback Control of Pedestrian Flow in Heterogeneous Corridors. IEEE Transactions on Automation Science and Engineering, 2021, 18, 1097-1108.	3.4	7
94	Multi-task safe reinforcement learning for navigating intersections in dense traffic. Journal of the Franklin Institute, 2023, 360, 13737-13760.	1.9	7
95	Control of a class of under-actuated systems with saturation using hierarchical sliding mode. , 2008, , .		6
96	Coordinated multiple ramps metering based on neuro-fuzzy adaptive dynamic programming. , 2009, , .		6
97	Neural and fuzzy dynamic programming for under-actuated systems. , 2012, , .		6
98	Visual Navigation with Actor-Critic Deep Reinforcement Learning. , 2018, , .		6
99	RailNet: An Information Aggregation Network for Rail Track Segmentation. , 2020, , .		6
100	Multi-task Learning with Cartesian Product-Based Multi-objective Combination for Dangerous Object Detection. Lecture Notes in Computer Science, 2017, , 28-35.	1.0	6
101	A Reinforcement Learning Benchmark for Autonomous Driving in Intersection Scenarios. , 2021, , .		6
102	Data-driven learning and control with multiple critic networks. , 2012, , .		5
103	Online reinforcement learning control by Bayesian inference. IET Control Theory and Applications, 2016, 10, 1331-1338.	1.2	5
104	Driving Control with Deep and Reinforcement Learning in The Open Racing Car Simulator. Lecture Notes in Computer Science, 2018, , 326-334.	1.0	5
105	Auto-encoder based Graph Convolutional Networks for Online Financial Anti-fraud. , 2019, , .		5
106	Reinforcement Learning based Lane Change Decision-Making with Imaginary Sampling. , 2019, , .		5
107	Deep sparse representation-based mid-level visual elements discovery in fine-grained classification. Soft Computing, 2019, 23, 8711-8722.	2.1	5
108	Adaptive Integrated Control for Omnidirectional Mobile Manipulators Based on Neural-Network. International Journal of Cognitive Informatics and Natural Intelligence, 2009, 3, 34-53.	0.4	5

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109	Empirical Policy Optimization for $n$ -Player Markov Games. IEEE Transactions on Cybernetics, 2023, 53, 6443-6455.	6.2	5
110	Convergence Proof of Approximate Policy Iteration for Undiscounted Optimal Control of Discrete-Time Systems. Cognitive Computation, 2015, 7, 763-771.	3.6	4
111	Convolutional fitted Q iteration for vision-based control problems. , 2016, , .		4
112	FMR-GA “ A Cooperative Multi-agent Reinforcement Learning Algorithm Based on Gradient Ascent. Lecture Notes in Computer Science, 2017, , 840-848.	1.0	4
113	Simplified Space Based Neural Architecture Search. , 2019, , .		4
114	Event-triggered integral reinforcement learning for nonlinear continuous-time systems. , 2017, , .		3
115	Multi-Objective Neural Architecture Search for Light-Weight Model. , 2019, , .		3
116	Multi-Agent Reinforcement Learning Based on Clustering in Two-Player Games. , 2019, , .		3
117	Cheating behavior detection based-on pictorial structure model. , 2014, , .		2
118	A Pdf-Free Change Detection Test for Data Streams Monitoring. , 2015, , .		2
119	Image clustering based on deep sparse representations. , 2016, , .		2
120	A general adaptive dynamic programming approach with experience replay. , 2016, , .		2
121	Ensemble LSDD-based change detection tests. , 2016, , .		2
122	Policy gradient methods with Gaussian process modelling acceleration. , 2017, , .		2
123	An Autonomous Driving Experience Platform with Learning-Based Functions. , 2018, , .		2
124	Cooperative Multi-Agent Deep Reinforcement Learning with Counterfactual Reward. , 2020, , .		2
125	An Improved Minimax-Q Algorithm Based on Generalized Policy Iteration to Solve a Chaser-Invader Game. , 2020, , .		2
126	Adaptive hybrid control for omnidirectional mobile manipulators using neural-network. , 2008, , .		1



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127	The Optimal Control of Discrete-Time Delay Nonlinear System with Dual Heuristic Dynamic Programming. Lecture Notes in Computer Science, 2012, , 664-672.	1.0	1
128	Cooperative multiagent reinforcement learning using factor graphs. , 2013, , .		1
129	How to Automatically Set an Initial Angle for Balance Control of a Cart-Pole System: An Education Case. International Journal of Electrical Engineering and Education, 2013, 50, 57-68.	0.4	1
130	A Kalman filter-based actor-critic learning approach. , 2014, , .		1
131	A data-based online reinforcement learning algorithm with high-efficient exploration. , 2014, , .		1
132	Thermal comfort control based on MEC algorithm for HVAC systems. , 2015, , .		1
133	Model-free reinforcement learning for nonlinear zero-sum games with simultaneous explorations. , 2016, , .		1
134	Coordinated control strategy of wind/battery energy storage system hybrid power output based on adaptive dynamic programming. , 2016, , .		1
135	Value Iteration Algorithm for Optimal Consensus Control of Multi-agent Systems. Lecture Notes in Computer Science, 2018, , 200-208.	1.0	1
136	Comparison of Control Methods Based on Imitation Learning for Autonomous Driving. , 2019, , .		1
137	Optimal Pedestrian Evacuation in Building with Consecutive Differential Dynamic Programming. , 2019, , .		1
138	Online Model-Free RLSPi Algorithm for Nonlinear Discrete-Time Non-affine Systems. Lecture Notes in Computer Science, 2013, , 242-249.	1.0	1
139	ContourRend: A Segmentation Method for Improving Contours by Rendering. Lecture Notes in Computer Science, 2020, , 251-260.	1.0	1
140	Learning Representation with Q-irrelevance Abstraction for Reinforcement Learning. , 2021, , .		1
141	Data-based control, optimization, modeling and applications. Neural Computing and Applications, 2013, 23, 1839-1842.	3.2	0
142	Special issue on intelligent control and information processing. Soft Computing, 2013, 17, 1967-1969.	2.1	0
143	Model-free Adaptive Dynamic Programming for Optimal Control of Discrete-time Affine Nonlinear System. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 7049-7054.	0.4	0
144	An high-efficient online reinforcement learning algorithm for continuous-state systems. , 2014, , .		0

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145	Model-free adaptive algorithm for optimal control of continuous-time nonlinear system. , 2015, , .		0
146	Online Synchronous Policy Iteration based on Concurrent Learning to solve continuous-time optimal control problem. , 2015, , .		0
147	Consensus of heterogeneous multi-agent systems with switching topologies using input-output feedback linearization. , 2015, , .		0
148	A perturbed Gaussian process regression with chunk sparsification for tracking non-stationary systems. , 2016, , .		0
149	An Efficient Network for Lane Segmentation. Communications in Computer and Information Science, 2019, , 177-185.	0.4	0
150	Adaptive Integrated Control for Omnidirectional Mobile Manipulators Based on Neural-Network. , 2011, , 310-325.		0
151	Off-Policy Reinforcement Learning for Partially Unknown Nonzero-Sum Games. Lecture Notes in Computer Science, 2017, , 822-830.	1.0	0
152	Device Placement Optimization for Deep Neural Networks via One-shot Model and Reinforcement Learning. , 2020, , .		0
153	Benchmarking Lane-changing Decision-making for Deep Reinforcement Learning. , 2021, , .		0
154	EGCN: Ensemble Graph Convolutional Network for Neural Architecture Performance Prediction. , 2021, , .		0
155	Moving Target Shooting Control Policy Based on Deep Reinforcement Learning. , 2021, , .		0