

Warren B Powell

List of Publications by Year in descending order

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100
papers

4,049
citations

186265
28
h-index

133252
59
g-index

143
all docs

143
docs citations

143
times ranked

2862
citing authors

#	ARTICLE	IF	CITATIONS
1	The Knowledge-Gradient Policy for Correlated Normal Beliefs. INFORMS Journal on Computing, 2009, 21, 599-613.	1.7	286
2	A Knowledge-Gradient Policy for Sequential Information Collection. SIAM Journal on Control and Optimization, 2008, 47, 2410-2439.	2.1	275
3	Dynamic-Programming Approximations for Stochastic Time-Staged Integer Multicommodity-Flow Problems. INFORMS Journal on Computing, 2006, 18, 31-42.	1.7	152
4	A unified framework for stochastic optimization. European Journal of Operational Research, 2019, 275, 795-821.	5.7	151
5	An Approximate Dynamic Programming Algorithm for Large-Scale Fleet Management: A Case Application. Transportation Science, 2009, 43, 178-197.	4.4	125
6	Adaptive Stochastic Control for the Smart Grid. Proceedings of the IEEE, 2011, 99, 1098-1115.	21.3	125
7	Adaptive stepsizes for recursive estimation with applications in approximate dynamic programming. Machine Learning, 2006, 65, 167-198.	5.4	117
8	What you should know about approximate dynamic programming. Naval Research Logistics, 2009, 56, 239-249.	2.2	110
9	Learning Algorithms for Separable Approximations of Discrete Stochastic Optimization Problems. Mathematics of Operations Research, 2004, 29, 814-836.	1.3	98
10	Tutorial on Stochastic Optimization in Energy—Part I: Modeling and Policies. IEEE Transactions on Power Systems, 2016, 31, 1459-1467.	6.5	98
11	Tutorial on Stochastic Optimization in Energy—Part II: An Energy Storage Illustration. IEEE Transactions on Power Systems, 2016, 31, 1468-1475.	6.5	82
12	The Knowledge-Gradient Algorithm for Sequencing Experiments in Drug Discovery. INFORMS Journal on Computing, 2011, 23, 346-363.	1.7	75
13	Optimal Hour-Ahead Bidding in the Real-Time Electricity Market with Battery Storage Using Approximate Dynamic Programming. INFORMS Journal on Computing, 2015, 27, 525-543.	1.7	72
14	Mean-Conditional Value-at-Risk Optimal Energy Storage Operation in the Presence of Transaction Costs. IEEE Transactions on Power Systems, 2015, 30, 1222-1232.	6.5	62
15	On the Value of Optimal Myopic Solutions for Dynamic Routing and Scheduling Problems in the Presence of User Noncompliance. Transportation Science, 2000, 34, 67-85.	4.4	61
16	An Approximate Dynamic Programming Algorithm for Monotone Value Functions. Operations Research, 2015, 63, 1489-1511.	1.9	50
17	Computational sustainability. Communications of the ACM, 2019, 62, 56-65.	4.5	49
18	Paradoxes in Learning and the Marginal Value of Information. Decision Analysis, 2010, 7, 378-403.	2.1	47

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19	Perspectives of approximate dynamic programming. <i>Annals of Operations Research</i> , 2016, 241, 319-356.	4.1	45
20	Exact algorithms for scheduling multiple families of jobs on parallel machines. <i>Naval Research Logistics</i> , 2003, 50, 823-840.	2.2	43
21	An Optimal Approximate Dynamic Programming Algorithm for the Lagged Asset Acquisition Problem. <i>Mathematics of Operations Research</i> , 2009, 34, 210-237.	1.3	41
22	An adaptive dynamic programming algorithm for a stochastic multiproduct batch dispatch problem. <i>Naval Research Logistics</i> , 2003, 50, 742-769.	2.2	40
23	Adaptive Labeling Algorithms for the Dynamic Assignment Problem. <i>Transportation Science</i> , 2000, 34, 50-66.	4.4	39
24	Benchmarking a Scalable Approximate Dynamic Programming Algorithm for Stochastic Control of Grid-Level Energy Storage. <i>INFORMS Journal on Computing</i> , 2018, 30, 106-123.	1.7	38
25	A network recourse decomposition method for dynamic networks with random arc capacities. <i>Networks</i> , 1994, 24, 369-384.	2.7	32
26	Stochastic optimization for vaccine and testing kit allocation for the COVID-19 pandemic. <i>European Journal of Operational Research</i> , 2023, 304, 325-338.	5.7	32
27	A review of stochastic algorithms with continuous value function approximation and some new approximate policy iteration algorithms for multidimensional continuous applications. <i>Journal of Control Theory and Applications</i> , 2011, 9, 336-352.	0.8	31
28	High-throughput in vivo mapping of RNA accessible interfaces to identify functional sRNA binding sites. <i>Nature Communications</i> , 2018, 9, 4084.	12.8	30
29	From Single Commodity to Multiattribute Models for Locomotive Optimization: A Comparison of Optimal Integer Programming and Approximate Dynamic Programming. <i>Transportation Science</i> , 2016, 50, 366-389.	4.4	26
30	Optimal Learning in Experimental Design Using the Knowledge Gradient Policy with Application to Characterizing Nanoemulsion Stability. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2015, 3, 320-345.	2.0	25
31	Stochastic programs over trees with random arc capacities. <i>Networks</i> , 1994, 24, 161-175.	2.7	24
32	Minimizing total tardiness in a stochastic single machine scheduling problem using approximate dynamic programming. <i>Journal of Scheduling</i> , 2010, 13, 597-607.	1.9	24
33	Optimization of a novel biophysical model using large scale in vivo antisense hybridization data displays improved prediction capabilities of structurally accessible RNA regions. <i>Nucleic Acids Research</i> , 2017, 45, 5523-5538.	14.5	23
34	Risk-Averse Approximate Dynamic Programming with Quantile-Based Risk Measures. <i>Mathematics of Operations Research</i> , 2018, 43, 554-579.	1.3	23
35	A Representational Paradigm for Dynamic Resource Transformation Problems. <i>Annals of Operations Research</i> , 2001, 104, 231-279.	4.1	22
36	The knowledge gradient algorithm for online subset selection. , 2009, , .		21

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37	Information Collection on a Graph. Operations Research, 2011, 59, 188-201.	1.9	21
38	Optimal Learning for Urban Delivery Fleet Allocation. Transportation Science, 2019, 53, 623-641.	4.4	18
39	Asymptotically optimal Bayesian sequential change detection and identification rules. Annals of Operations Research, 2013, 208, 337-370.	4.1	16
40	ADAPT: A Price-Stabilizing Compliance Policy for Renewable Energy Certificates: The Case of SREC Markets. Operations Research, 2017, 65, 1429-1445.	1.9	16
41	The knowledge-gradient stopping rule for ranking and selection. , 2008, , .		15
42	A New Optimal Stepsize for Approximate Dynamic Programming. IEEE Transactions on Automatic Control, 2015, 60, 743-758.	5.7	14
43	Low-Rank Value Function Approximation for Co-Optimization of Battery Storage. IEEE Transactions on Smart Grid, 2018, 9, 6590-6598.	9.0	14
44	Optimal control of dosage decisions in controlled ovarian hyperstimulation. Annals of Operations Research, 2010, 178, 223-245.	4.1	13
45	A dynamic model for the failure replacement of Aging high-voltage transformers. Energy Systems, 2010, 1, 31-59.	3.0	13
46	Bias-corrected Q-learning to control max-operator bias in Q-learning. , 2013, , .		12
47	An hour-ahead prediction model for heavy-tailed spot prices. Energy Economics, 2011, 33, 1252-1266.	12.1	11
48	Calibrating simulation models using the knowledge gradient with continuous parameters. , 2010, , .		10
49	On the robustness of a one-period look-ahead policy in multi-armed bandit problems. Procedia Computer Science, 2010, 1, 1635-1644.	2.0	10
50	Evolutionary Policy Iteration Under a Sampling Regime for Stochastic Combinatorial Optimization. IEEE Transactions on Automatic Control, 2010, 55, 1254-1257.	5.7	10
51	Optimal learning for sequential sampling with non-parametric beliefs. Journal of Global Optimization, 2014, 58, 517-543.	1.8	10
52	Combining cost-based and rule-based knowledge in complex resource allocation problems. IIE Transactions, 2006, 38, 159-172.	2.1	9
53	A convergent recursive least squares approximate policy iteration algorithm for multi-dimensional Markov decision process with continuous state and action spaces. , 2009, , .		9
54	Parallel Nonstationary Direct Policy Search for Risk-Averse Stochastic Optimization. INFORMS Journal on Computing, 2017, 29, 332-349.	1.7	9

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55	Reinforcement learning for electricity dispatch in grids with high intermittent generation and energy storage systems: A case study for the Brazilian grid. International Journal of Energy Research, 2020, 44, 8635-8653.	4.5	9
56	A Monte Carlo knowledge gradient method for learning abatement potential of emissions reduction technologies. , 2009, , .		8
57	Bayesian active learning with basis functions. , 2011, , .		8
58	Adaptive Learning of Drug Quality and Optimization of Patient Recruitment for Clinical Trials with Dropouts. Manufacturing and Service Operations Management, 2022, 24, 580-599.	3.7	8
59	From Reinforcement Learning to Optimal Control: A Unified Framework for Sequential Decisions. Studies in Systems, Decision and Control, 2021, , 29-74.	1.0	8
60	Approximate dynamic programming: Lessons from the field. , 2008, , .		7
61	Approximate dynamic programming with correlated Bayesian beliefs. , 2010, , .		7
62	Simulation model calibration with correlated knowledge-gradients. , 2009, , .		6
63	One-stage R&D portfolio optimization withÂAnÂApplication to solid oxide fuel cells. Energy Systems, 2010, 1, 141-163.	3.0	6
64	Bias-Corrected Q-Learning With Multistate Extension. IEEE Transactions on Automatic Control, 2019, 64, 4011-4023.	5.7	6
65	Optimal Learning for Stochastic Optimization with Nonlinear Parametric Belief Models. SIAM Journal on Optimization, 2018, 28, 2327-2359.	2.0	5
66	Bayesian Exploration for Approximate Dynamic Programming. Operations Research, 2019, 67, 198-214.	1.9	5
67	Some Fixed-Point Results for the Dynamic Assignment Problem. Annals of Operations Research, 2003, 124, 15-33.	4.1	4
68	Robust policies for the transformer acquisition andÂAllocation problem. Energy Systems, 2010, 1, 245-272.	3.0	4
69	An adaptive-learning framework for semi-cooperative multi-agent coordination. , 2011, , .		4
70	May the best man win: Simulation optimization for match-making in e-sports. , 2011, , .		4
71	Ranking and selection meets robust optimization. , 2012, , .		4
72	SMART-Invest: a stochastic, dynamic planning for optimizing investments in wind, solar, and storage in the presence of fossil fuels. The case of the PJM electricity market. Energy Systems, 2018, 9, 277-303.	3.0	4

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73	Zeroth-Order Stochastic Compositional Algorithms for Risk-Aware Learning. SIAM Journal on Optimization, 2022, 32, 386-416.	2.0	4
74	Optimal learning of transition probabilities in the two-agent newsvendor problem. , 2010, , .		3
75	Optimal learning with a local parametric belief model. Journal of Global Optimization, 2015, 63, 401-425.	1.8	3
76	Optimistic Monte Carlo Tree Search with Sampled Information Relaxation Dual Bounds. Operations Research, 2020, 68, 1678-1697.	1.9	3
77	Optimal Online Learning for Nonlinear Belief Models Using Discrete Priors. Operations Research, 2020, 68, 1538-1556.	1.9	3
78	Designing Lookahead Policies for Sequential Decision Problems in Transportation and Logistics. IEEE Open Journal of Intelligent Transportation Systems, 2022, 3, 313-327.	4.8	3
79	Bounding procedures for multistage stochastic dynamic networks. Networks, 1993, 23, 575-595.	2.7	2
80	Restricted recourse strategies for bounding the expected network recourse function. Annals of Operations Research, 1996, 64, 261-287.	4.1	2
81	The optimizing-simulator: Merging simulation and optimization using approximate dynamic programming. , 2007, , .		2
82	Optimal online learning in bidding for sponsored search auctions. , 2017, , .		2
83	A Knowledge Gradient Policy for Sequencing Experiments to Identify the Structure of RNA Molecules Using a Sparse Additive Belief Model. INFORMS Journal on Computing, 2018, 30, 750-767.	1.7	2
84	On Algorithms for Nonlinear Dynamic Networks. Network Optimization Problems: Algorithms, Applications and Complexity, 1993, , 203-231.	0.1	2
85	A note on Bertsekas' small-label-first strategy. Networks, 1997, 29, 111-116.	2.7	1
86	Introduction to Markov Decision Processes. Wiley Series in Probability and Statistics, 0, , 57-109.	0.0	1
87	Approximating Value Functions. Wiley Series in Probability and Statistics, 0, , 289-336.	0.0	1
88	Dynamic Resource Allocation Problems. Wiley Series in Probability and Statistics, 2011, , 541-592.	0.0	0
89	Least squares policy iteration with instrumental variables vs. direct policy search: comparison against optimal benchmarks using energy storage. Infor, 2020, 58, 141-166.	0.6	0
90	Policy Search. Wiley Series in Probability and Statistics, 0, , 249-288.	0.0	0

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91	Policies. Wiley Series in Probability and Statistics, 0, , 221-248.	0.0	0
92	Learning Value Function Approximations. Wiley Series in Probability and Statistics, 0, , 337-381.	0.0	0
93	The Challenges of Dynamic Programming. Wiley Series in Probability and Statistics, 0, , 1-23.	0.0	0
94	Optimizing While Learning. Wiley Series in Probability and Statistics, 0, , 383-418.	0.0	0
95	Modeling Dynamic Programs. Wiley Series in Probability and Statistics, 0, , 167-219.	0.0	0
96	Implementation Challenges. Wiley Series in Probability and Statistics, 0, , 593-606.	0.0	0
97	Exploration Versus Exploitation. Wiley Series in Probability and Statistics, 0, , 457-496.	0.0	0
98	Value Function Approximations for Resource Allocation Problems. Wiley Series in Probability and Statistics, 0, , 497-539.	0.0	0
99	Some Illustrative Models. Wiley Series in Probability and Statistics, 0, , 25-56.	0.0	0
100	Adaptive Estimation and Stepsizes. Wiley Series in Probability and Statistics, 0, , 419-456.	0.0	0