Carla P Gomes

List of Publications by Year in descending order

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58 papers	2,605 citations	331259 21 h-index	197535 49 g-index
58 all docs	58 docs citations	58 times ranked	2773 citing authors

#	Article	IF	Citations
1	The eBird enterprise: An integrated approach to development and application of citizen science. Biological Conservation, 2014, 169, 31-40.	1.9	703
2	Algorithm portfolios. Artificial Intelligence, 2001, 126, 43-62.	3.9	333
3	Heavy-Tailed Phenomena in Satisfiability and Constraint Satisfaction Problems. Journal of Automated Reasoning, 2000, 24, 67-100.	1.1	250
4	Autonomous experimentation systems for materials development: A community perspective. Matter, 2021, 4, 2702-2726.	5.0	143
5	Reducing greenhouse gas emissions of Amazon hydropower with strategic dam planning. Nature Communications, 2019, 10, 4281.	5.8	126
6	Chapter 2 Satisfiability Solvers. Foundations of Artificial Intelligence, 2008, 3, 89-134.	0.9	125
7	Heavy-tailed distributions in combinatorial search. Lecture Notes in Computer Science, 1997, , 121-135.	1.0	70
8	Automated Phase Mapping with AgileFD and its Application to Light Absorber Discovery in the Vâ€“Mnâ€“Nb Oxide System. ACS Combinatorial Science, 2017, 19, 37-46.	3.8	61
9	Artificial intelligence for materials discovery. MRS Bulletin, 2019, 44, 538-544.	1.7	60
10	Reducing adverse impacts of Amazon hydropower expansion. Science, 2022, 375, 753-760.	6.0	60
11	Tradeâ€offs and efficiencies in optimal budgetâ€constrained multispecies corridor networks. Conservation Biology, 2017, 31, 192-202.	2.4	53
12	Computational sustainability. Communications of the ACM, 2019, 62, 56-65.	3.3	49
13	Materials representation and transfer learning for multi-property prediction. Applied Physics Reviews, 2021, 8, .	5.5	31
14	Automating crystal-structure phase mapping by combining deep learning with constraint reasoning. Nature Machine Intelligence, 2021, 3, 812-822.	8.3	29
15	Floating solar power could help fight climate change â€” letâ€™s get it right. Nature, 2022, 606, 246-249.	13.7	27
16	Constraint Reasoning and Kernel Clustering for Pattern Decomposition with Scaling. Lecture Notes in Computer Science, 2011, , 508-522.	1.0	26
17	Density of states prediction for materials discovery via contrastive learning from probabilistic embeddings. Nature Communications, 2022, 13, 949.	5.8	26
18	Autonomous materials synthesis via hierarchical active learning of nonequilibrium phase diagrams. Science Advances, 2021, 7, eabg4930.	4.7	26

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19	Artificial intelligence and operations research: challenges and opportunities in planning and scheduling. Knowledge Engineering Review, 2000, 15, 1-10.	2.1	23
20	CRYSTAL: a multi-agent AI system for automated mapping of materialsâ€™ crystal structures. MRS Communications, 2019, 9, 600-608.	0.8	22
21	Statistical Regimes Across Constrainedness Regions. Constraints, 2005, 10, 317-337.	0.4	21
22	Multi-component background learning automates signal detection for spectroscopic data. Npj Computational Materials, 2019, 5, .	3.5	21
23	Formal Models of Heavy-Tailed Behavior in Combinatorial Search. Lecture Notes in Computer Science, 2001, , 408-421.	1.0	21
24	Tradeoffs in the Complexity of Backdoor Detection. , 2007, , 256-270.		21
25	Reserve design to optimize functional connectivity and animal density. Conservation Biology, 2019, 33, 1023-1034.	2.4	18
26	Climate change may impair electricity generation and economic viability of future Amazon hydropower. Global Environmental Change, 2021, 71, 102383.	3.6	18
27	Strategic planning of hydropower development: balancing benefits and socioenvironmental costs. Current Opinion in Environmental Sustainability, 2022, 56, 101175.	3.1	18
28	Deep Multi-species Embedding. , 2017, , .		17
29	COMPUTER SCIENCE: Satisfied with Physics. Science, 2002, 297, 784-785.	6.0	15
30	Backdoors to Combinatorial Optimization: Feasibility and Optimality. Lecture Notes in Computer Science, 2009, , 56-70.	1.0	15
31	Backdoors in the Context of Learning. Lecture Notes in Computer Science, 2009, , 73-79.	1.0	13
32	Effects of Seagrass Wasting Disease on Eelgrass Growth and Belowground Sugar in Natural Meadows. Frontiers in Marine Science, 2021, 8, .	1.2	13
33	Disentangled Variational Autoencoder based Multi-Label Classification with Covariance-Aware Multivariate Probit Model. , 2020, , .		12
34	Approximations and Randomization to Boost CSP Techniques. Annals of Operations Research, 2004, 130, 117-141.	2.6	11
35	Randomness and Structure. Foundations of Artificial Intelligence, 2006, 2, 639-664.	0.9	11
36	Disease surveillance by artificial intelligence links eelgrass wasting disease to ocean warming across latitudes. Limnology and Oceanography, 2022, 67, 1577-1589.	1.6	11

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37	An improved approximation algorithm for the partial Latin square extension problem. Operations Research Letters, 2004, 32, 479-484.	0.5	10
38	Bayesian Classification of Flight Calls with a Novel Dynamic Time Warping Kernel. , 2010, , .		9
39	Learning policies for battery usage optimization in electric vehicles. Machine Learning, 2013, 92, 177-194.	3.4	9
40	Generating highly balanced sudoku problems as hard problems. Journal of Heuristics, 2011, 17, 589-614.	1.1	8
41	Computational sustainability meets materials science. Nature Reviews Materials, 2021, 6, 645-647.	23.3	8
42	Tradeoffs in the complexity of backdoors to satisfiability: dynamic sub-solvers and learning during search. Annals of Mathematics and Artificial Intelligence, 2014, 70, 399-431.	0.9	7
43	Deep Hurdle Networks for Zero-Inflated Multi-Target Regression: Application to Multiple Species Abundance Estimation. , 2020, , .		7
44	Randomized Backtrack Search. Operations Research/ Computer Science Interfaces Series, 2004, , 233-291.	0.3	6
45	Learning Policies for Battery Usage Optimization in Electric Vehicles. Lecture Notes in Computer Science, 2012, , 195-210.	1.0	6
46	HYBRID SEARCH STRATEGIES FOR HETEROGENEOUS SEARCH SPACES. International Journal on Artificial Intelligence Tools, 2000, 09, 45-57.	0.7	5
47	Regular-SAT: A many-valued approach to solving combinatorial problems. Discrete Applied Mathematics, 2007, 155, 1613-1626.	0.5	5
48	Boosting Efficiency for Computing the Pareto Frontier on Tree Structured Networks. Lecture Notes in Computer Science, 2018, , 263-279.	1.0	4
49	Optical Identification of Materials Transformations in Oxide Thin Films. ACS Combinatorial Science, 2020, 22, 887-894.	3.8	4
50	On the intersection of AI and OR. Knowledge Engineering Review, 2001, 16, 1-4.	2.1	3
51	Efficiently Optimizing for Dendritic Connectivity on Tree-Structured Networks in a Multi-Objective Framework. , 2018, , .		3
52	Materials structureâ€“property factorization for identification of synergistic phase interactions in complex solar fuels photoanodes. Npj Computational Materials, 2022, 8, .	3.5	3
53	Extending the Reach of SAT with Many-Valued Logics. Electronic Notes in Discrete Mathematics, 2001, 9, 392-407.	0.4	2
54	Behavior Identification in Two-Stage Games for Incentivizing Citizen Science Exploration. Lecture Notes in Computer Science, 2016, , 701-717.	1.0	2

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55	Structure and Problem Hardness: Goal Asymmetry and DPLL Proofs in SAT-Based Planning. Logical Methods in Computer Science, 2007, 3, .	0.4	2
56	Quality of LP-Based Approximations for Highly Combinatorial Problems. Lecture Notes in Computer Science, 2004, , 377-392.	1.0	2
57	A generative power-law search tree model. Computers and Operations Research, 2009, 36, 2376-2386.	2.4	1
58	String Kernels for Complex Time-Series: Counting Targets from Sensed Movement. , 2014, , .		0