Joshua D Knowles

List of Publications by Year
in descending order

89	11,288	101384 36	91712 69
papers	citations	h-index	g-index

95	95	95	11362
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Procedures for large-scale metabolic profiling of serum and plasma using gas chromatography and liquid chromatography coupled to mass spectrometry. Nature Protocols, 2011, 6, 1060-1083.	5.5	2,236
2	Approximating the Nondominated Front Using the Pareto Archived Evolution Strategy. Evolutionary Computation, 2000, 8, 149-172.	2.3	1,953
3	ParEGO: a hybrid algorithm with on-line landscape approximation for expensive multiobjective optimization problems. IEEE Transactions on Evolutionary Computation, 2006, 10, 50-66.	7.5	803
4	Computational cluster validation in post-genomic data analysis. Bioinformatics, 2005, 21, 3201-3212.	1.8	763
5	An Evolutionary Approach to Multiobjective Clustering. IEEE Transactions on Evolutionary Computation, 2007, 11, 56-76.	7.5	590
6	The Pareto Envelope-Based Selection Algorithm for Multiobjective Optimization. Lecture Notes in Computer Science, 2000, , 839-848.	1.0	488
7	Development of a Robust and Repeatable UPLCâ^'MS Method for the Long-Term Metabolomic Study of Human Serum. Analytical Chemistry, 2009, 81, 1357-1364.	3.2	447
8	Properties of an adaptive archiving algorithm for storing nondominated vectors. IEEE Transactions on Evolutionary Computation, 2003, 7, 100-116.	7.5	249
9	Multiobjective Optimization in Bioinformatics and Computational Biology. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2007, 4, 279-292.	1.9	243
10	Molecular phenotyping of a UK population: defining the human serum metabolome. Metabolomics, 2015, 11, 9-26.	1.4	202
11	Reducing Local Optima in Single-Objective Problems by Multi-objectivization. Lecture Notes in Computer Science, 2001, , 269-283.	1.0	199
12	Techniques for highly multiobjective optimisation. , 2007, , .		175
13	Development and Performance of a Gas Chromatographyâ^'Time-of-Flight Mass Spectrometry Analysis for Large-Scale Nontargeted Metabolomic Studies of Human Serum. Analytical Chemistry, 2009, 81, 7038-7046.	3.2	168
14	Ant-Based Clustering and Topographic Mapping. Artificial Life, 2006, 12, 35-62.	1.0	167
15	A metabolome pipeline: from concept to data to knowledge. Metabolomics, 2005, 1, 39-51.	1.4	152
16	Fifty years of pulsar candidate selection: from simple filters to a new principled real-time classification approach. Monthly Notices of the Royal Astronomical Society, 2016, 459, 1104-1123.	1.6	151
17	Closed-Loop, Multiobjective Optimization of Analytical Instrumentation:Â Gas Chromatography/Time-of-Flight Mass Spectrometry of the Metabolomes of Human Serum and of Yeast Fermentations. Analytical Chemistry, 2005, 77, 290-303.	3.2	136
18	Insights into the behaviour of systems biology models from dynamic sensitivity and identifiability analysis: a case study of an NF-ÎºB signalling pathway. Molecular BioSystems, 2006, 2, 640-649.	2.9	124

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19	Information-theoretic sensitivity analysis: a general method for credit assignment in complex networks. Journal of the Royal Society Interface, 2008, 5, 223-235.	1.5	101
20	Array-based evolution of DNA aptamers allows modelling of an explicit sequence-fitness landscape. Nucleic Acids Research, 2009, 37, e6-e6.	6.5	96
21	Closed-Loop, Multiobjective Optimization of Two-Dimensional Gas Chromatography/Mass Spectrometry for Serum Metabolomics. Analytical Chemistry, 2007, 79, 464-476.	3.2	94
22	Quantifying the Effects of Objective Space Dimension in Evolutionary Multiobjective Optimization. , 2007, , 757-771.		88
23	Evolutionary Multiobjective Clustering. Lecture Notes in Computer Science, 2004, , 1081-1091.	1.0	81
24	Memetic Algorithms for Multiobjective Optimization: Issues, Methods and Prospects. , 2005, , 313-352.		77
25	Local search for the probabilistic traveling salesman problem: Correction to the 2-p-opt and 1-shift algorithms. European Journal of Operational Research, 2005, 162, 206-219.	3.5	75
26	Feature Subset Selection in Unsupervised Learning via Multiobjective Optimization. International Journal of Computational Intelligence Research, 2006, 2, .	0.3	74
27	Exploiting the Trade-off â€" The Benefits of Multiple Objectives in Data Clustering. Lecture Notes in Computer Science, 2005, , 547-560.	1.0	73
28	A Comparison of the Performance of Different Metaheuristics on the Timetabling Problem. Lecture Notes in Computer Science, 2003, , 329-351.	1.0	71
29	Quantitative assessment of moisture damage for cacao bean quality using two-dimensional gas chromatography combined with time-of-flight mass spectrometry and chemometrics. Journal of Chromatography A, 2010, 1217, 1963-1970.	1.8	68
30	The landscape adaptive particle swarm optimizer. Applied Soft Computing Journal, 2008, 8, 295-304.	4.1	64
31	Efficient discovery of anti-inflammatory small-molecule combinations using evolutionary computing. Nature Chemical Biology, 2011, 7, 902-908.	3.9	61
32	Multiobjectivization by Decomposition of Scalar Cost Functions. Lecture Notes in Computer Science, 2008, , 31-40.	1.0	60
33	Meta-Modeling in Multiobjective Optimization. Lecture Notes in Computer Science, 2008, , 245-284.	1.0	59
34	Analysis of a complete DNAâ€"protein affinity landscape. Journal of the Royal Society Interface, 2010, 7, 397-408.	1.5	58
35	Aptamer evolution for array-based diagnostics. Analytical Biochemistry, 2009, 390, 203-205.	1.1	50
36	Accuracy and tractability of a kriging model of intramolecular polarizable multipolar electrostatics and its application to histidine. Journal of Computational Chemistry, 2013, 34, 1850-1861.	1.5	47

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37	Closed-loop evolutionary multiobjective optimization. IEEE Computational Intelligence Magazine, 2009, 4, 77-91.	3.4	44
38	The dual role of fragments in fragmentâ€assembly methods for de novo protein structure prediction. Proteins: Structure, Function and Bioinformatics, 2012, 80, 490-504.	1.5	42
39	Multiobjective Optimization on a Budget of 250 Evaluations. Lecture Notes in Computer Science, 2005, , 176-190.	1.0	39
40	Generating, Maintaining, and Exploiting Diversity in a Memetic Algorithm for Protein Structure Prediction. Evolutionary Computation, 2016, 24, 577-607.	2.3	38
41	An Improved and More Scalable Evolutionary Approach to Multiobjective Clustering. IEEE Transactions on Evolutionary Computation, 2018, 22, 515-535.	7.5	35
42	Noisy Multiobjective Optimization on a Budget of 250 Evaluations. Lecture Notes in Computer Science, 2009, , 36-50.	1.0	32
43	On Sequential Online Archiving of Objective Vectors. Lecture Notes in Computer Science, 2011, , 46-60.	1.0	32
44	Analysis of aptamer sequence activity relationships. Integrative Biology (United Kingdom), 2009, 1, 116-122.	0.6	31
45	Multiobjective optimization: When objectives exhibit non-uniform latencies. European Journal of Operational Research, 2015, 243, 497-513.	3.5	31
46	In silico modelling of directed evolution: Implications for experimental design and stepwise evolution. Journal of Theoretical Biology, 2009, 257, 131-141.	0.8	30
47	Artefacts and biases affecting the evaluation of scoring functions on decoy sets for protein structure prediction. Bioinformatics, 2009, 25, 1271-1279.	1.8	22
48	Multiobjective evolutionary optimisation for surface-enhanced Raman scattering. Analytical and Bioanalytical Chemistry, 2010, 397, 1893-1901.	1.9	19
49	On Handling Ephemeral Resource Constraints in Evolutionary Search. Evolutionary Computation, 2013, 21, 497-531.	2.3	19
50	MUSCLE: automated multi-objective evolutionary optimization of targeted LC-MS/MS analysis. Bioinformatics, 2015, 31, 975-977.	1.8	17
51	Multi-Objective Clustering and Cluster Validation. , 2006, , 21-47.		15
52	Exploiting Genomic Knowledge in Optimising Molecular Breeding Programmes: Algorithms from Evolutionary Computing. PLoS ONE, 2012, 7, e48862.	1.1	15
53	Priority Elicitation in the AHP by a Pareto Envelope-Based Selection Algorithm. Lecture Notes in Economics and Mathematical Systems, 2010, , 249-257.	0.3	14
54	Rapid Skill Capture in a First-Person Shooter. IEEE Transactions on Games, 2017, 9, 63-75.	1.7	13

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55	Machine Decision Makers as a Laboratory for Interactive EMO. Lecture Notes in Computer Science, 2015, , 295-309.	1.0	13
56	Clustering Criteria in Multiobjective Data Clustering. Lecture Notes in Computer Science, 2012, , 32-41.	1.0	13
57	Enumeration of Pareto optimal multi-criteria spanning trees â€“ a proof of the incorrectness of Zhou and Gen's proposed algorithm. European Journal of Operational Research, 2002, 143, 543-547.	3.5	11
58	Predictive models for population performance on real biological fitness landscapes. Bioinformatics, 2010, 26, 2145-2152.	1.8	11
59	Predicting skill from gameplay input to a first-person shooter. , 2013, , .		11
60	On Using Decision Maker Preferences with ParEGO. Lecture Notes in Computer Science, 2017, , 282-297.	1.0	11
61	â€˜Hang On a Minuteâ€™: Investigations on the Effects of Delayed Objective Functions in Multiobjective Optimization. Lecture Notes in Computer Science, 2013, , 6-20.	1.0	10
62	Modes of Problem Solving with Multiple Objectives: Implications for Interpreting the Pareto Set and for Decision Making. Natural Computing Series, 2008, , 131-151.	2.2	10
63	Multi-Objective Clustering and Cluster Validation. , 2006, , 21-47.		8
64	Evidence Accumulation in Multiobjective Data Clustering. Lecture Notes in Computer Science, 2013, , 543-557.	1.0	8
65	An Investigation of Representations and Operators for Evolutionary Data Clustering with a Variable Number of Clusters. Lecture Notes in Computer Science, 2006, , 839-849.	1.0	7
66	Benchmarks for maintenance scheduling problems in power generation. , 2012, , .		6
67	Simheuristics for the Multiobjective Nondeterministic Firefighter Problem in a Time-Constrained Setting. Lecture Notes in Computer Science, 2016, , 248-265.	1.0	6
68	A New Reduced-Length Genetic Representation for Evolutionary Multiobjective Clustering. Lecture Notes in Computer Science, 2017, , 236-251.	1.0	6
69	Policy learning in resource-constrained optimization. , 2011, , .		5
70	Population Fluctuation Promotes Cooperation in Networks. Scientific Reports, 2015, 5, 11054.	1.6	5
71	Evolutionary Optimization on Problems Subject to Changes of Variables. , 2010, , 151-160.		5
72	Systematic construction of algorithm portfolios for a Maintenance Scheduling Problem. , 2013, , .		4

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73	Comparing multi-objective and threshold-moving ROC curve generation for a prototype-based classifier. , 2013, , .		3
74	Realistic utility functions prove difficult for state-of-the-art interactive multiobjective optimization algorithms. , 2021, , .		3
75	Editorial: Special issue on understanding complexity in multiobjective optimization. Journal of Multi-Criteria Decision Analysis, 2017, 24, 3-4.	1.0	2
76	A Minimal Model for the Emergence of Cooperation in Randomly Growing Networks. , 0, , .		2
77	Selected Aspects of Natural Computing. , 2012, , 1737-1801.		2
78	Experimental optimization by evolutionary algorithms. , 2010, , .		1
79	Using Machine Learning to Explore the Relevance of Local and Global Features During Conformational Search in Rosetta. , 2015, , .		1
80	The Emergence of Cooperation in Public GoodsÂGames on Randomly Growing DynamicÂNetworks. Lecture Notes in Computer Science, 2016, , 363-378.	1.0	1
81	Ephemeral Resource Constraints in Optimization. Infosys Science Foundation Series, 2015, , 95-134.	0.3	1
82	Sequential experimentation by evolutionary algorithms. , 2017, , .		0
83	The Assignment of Referees to WSC10 Submissions: An Evolutionary Approach. Advances in Intelligent and Soft Computing, 2006, , 341-350.	0.2	0
84	Evolutionary Clustering. , 2016, , 1-7.		0
85	Global Network Cooperation Catalysed by a Small Prosocial Migrant Clique. Lecture Notes in Computer Science, 2016, , 62-74.	1.0	0
86	Evolutionary Clustering. , 2017, , 423-429.		0
87	Molecular Structure Elucidation Using Ant Colony Optimization: A Preliminary Study. Lecture Notes in Computer Science, 2008, , 120-131.	1.0	0
88	Deep Optimisation: Transitioning the Scale of Evolutionary Search by Inducing and Searching in Deep Representations. SN Computer Science, 2022, 3, .	2.3	0
89	Expensive optimization with production-graph resource constraints. , 2022, , .		0