Coralia Cartis

List of Publications by Year in descending order

45 papers	1,476 citations	361413 20 h-index	345221 36 g-index
47 all docs	47 docs citations	47 times ranked	749 citing authors

#	ARTICLE	IF	CITATIONS
1	Adaptive cubic regularisation methods for unconstrained optimization. Part I: motivation, convergence and numerical results. Mathematical Programming, 2011, 127, 245-295.	2.4	178
2	Adaptive cubic regularisation methods for unconstrained optimization. Part II: worst-case function- and derivative-evaluation complexity. Mathematical Programming, 2011, 130, 295-319.	2.4	160
3	On the Complexity of Steepest Descent, Newton's and Regularized Newton's Methods for Nonconvex Unconstrained Optimization Problems. SIAM Journal on Optimization, 2010, 20, 2833-2852.	2.0	136
4	Global rates of convergence for nonconvex optimization on manifolds. IMA Journal of Numerical Analysis, 2019, 39, 1-33.	2.9	103
5	Improving the Flexibility and Robustness of Model-based Derivative-free Optimization Solvers. ACM Transactions on Mathematical Software, 2019, 45, 1-41.	2.9	72
6	On the Evaluation Complexity of Composite Function Minimization with Applications to Nonconvex Nonlinear Programming. SIAM Journal on Optimization, 2011, 21, 1721-1739.	2.0	64
7	Global convergence rate analysis of unconstrained optimization methods based on probabilistic models. Mathematical Programming, 2018, 169, 337-375.	2.4	58
8	An adaptive cubic regularization algorithm for nonconvex optimization with convex constraints and its function-evaluation complexity. IMA Journal of Numerical Analysis, 2012, 32, 1662-1695.	2.9	48
9	Complexity bounds for second-order optimality in unconstrained optimization. Journal of Complexity, 2012, 28, 93-108.	1.3	48
10	Phase transitions for greedy sparse approximation algorithms. Applied and Computational Harmonic Analysis, 2011, 30, 188-203.	2.2	44
11	Convergence Rate Analysis of a Stochastic Trust-Region Method via Supermartingales. INFORMS Journal on Optimization, 2019, 1, 92-119.	1.4	41
12	On the Oracle Complexity of First-Order and Derivative-Free Algorithms for Smooth Nonconvex Minimization. SIAM Journal on Optimization, 2012, 22, 66-86.	2.0	36
13	Convergence of a Regularized Euclidean Residual Algorithm for Nonlinear Least-Squares. SIAM Journal on Numerical Analysis, 2010, 48, 1-29.	2.3	32
14	On the complexity of finding first-order critical points in constrained nonlinear optimization. Mathematical Programming, 2014, 144, 93-106.	2.4	30
15	Universal Regularization Methods: Varying the Power, the Smoothness and the Accuracy. SIAM Journal on Optimization, 2019, 29, 595-615.	2.0	30
16	On the Evaluation Complexity of Cubic Regularization Methods for Potentially Rank-Deficient Nonlinear Least-Squares Problems and Its Relevance to Constrained Nonlinear Optimization. SIAM Journal on Optimization, 2013, 23, 1553-1574.	2.0	28
17	A New and Improved Quantitative Recovery Analysis for Iterative Hard Thresholding Algorithms in Compressed Sensing. IEEE Transactions on Information Theory, 2015, 61, 2019-2042.	2.4	26
18	Second-Order Optimality and Beyond: Characterization and Evaluation Complexity in Convexly Constrained Nonlinear Optimization. Foundations of Computational Mathematics, 2018, 18, 1073-1107.	2.5	24

#	ARTICLE	IF	CITATIONS
19	Can Top-of-Atmosphere Radiation Measurements Constrain Climate Predictions? Part II: Climate Sensitivity. Journal of Climate, 2013, 26, 9367-9383.	3.2	23
20	A derivative-free Gauss–Newton method. Mathematical Programming Computation, 2019, 11, 631-674.	4.8	23
21	Trust-region and other regularisations of linear least-squares problems. BIT Numerical Mathematics, 2009, 49, 21-53.	2.0	21
22	Can Top-of-Atmosphere Radiation Measurements Constrain Climate Predictions? Part I: Tuning. Journal of Climate, 2013, 26, 9348-9366.	3.2	19
23	On the Evaluation Complexity of Constrained Nonlinear Least-Squares and General Constrained Nonlinear Optimization Using Second-Order Methods. SIAM Journal on Numerical Analysis, 2015, 53, 836-851.	2.3	19
24	Decay Properties of Restricted Isometry Constants. IEEE Signal Processing Letters, 2009, 16, 572-575.	3.6	18
25	Sharp Worst-Case Evaluation Complexity Bounds for Arbitrary-Order Nonconvex Optimization with Inexpensive Constraints. SIAM Journal on Optimization, 2020, 30, 513-541.	2.0	16
26	Escaping local minima with local derivative-free methods: a numerical investigation. Optimization, 2022, 71, 2343-2373.	1.7	16
27	Some disadvantages of a Mehrotra-type primal-dual corrector interior point algorithm for linear programming. Applied Numerical Mathematics, 2009, 59, 1110-1119.	2.1	15
28	Evaluation complexity of adaptive cubic regularization methods for convex unconstrained optimization. Optimization Methods and Software, 2012, 27, 197-219.	2.4	15
29	Worst-case evaluation complexity of non-monotone gradient-related algorithms for unconstrained optimization. Optimization, 2015, 64, 1349-1361.	1.7	15
30	Calibrating climate models using inverse methods: case studies with HadAM3, HadAM3P and HadCM3. Geoscientific Model Development, 2017, 10, 3567-3589.	3.6	14
31	Adaptive regularization with cubics on manifolds. Mathematical Programming, 2021, 188, 85-134.	2.4	14
32	An Exact Tree Projection Algorithm for Wavelets. IEEE Signal Processing Letters, 2013, 20, 1026-1029.	3.6	13
33	Branching and bounding improvements for global optimization algorithms with Lipschitz continuity properties. Journal of Global Optimization, 2015, 61, 429-457.	1.8	12
34	A concise second-order complexity analysis for unconstrained optimization using high-order regularized models. Optimization Methods and Software, 2020, 35, 243-256.	2.4	12
35	Scalable subspace methods for derivative-free nonlinear least-squares optimization. Mathematical Programming, 2023, 199, 461-524.	2.4	10
36	WORST-CASE EVALUATION COMPLEXITY AND OPTIMALITY OF SECOND-ORDER METHODS FOR NONCONVEX SMOOTH OPTIMIZATION. , 2019, , .		7

#	Article	IF	Citations
37	Worst-case evaluation complexity of regularization methods for smooth unconstrained optimization using Hölder continuous gradients. Optimization Methods and Software, 2017, 32, 1273-1298.	2.4	6
38	Optimality of orders one to three and beyond: Characterization and evaluation complexity in constrained nonconvex optimization. Journal of Complexity, 2019, 53, 68-94.	1.3	6
39	A dimensionality reduction technique for unconstrained global optimization of functions with low effective dimensionality. Information and Inference, 2022, 11, 167-201.	1.6	5
40	A derivative-free optimisation method for global ocean biogeochemical models. Geoscientific Model Development, 2022, 15, 3537-3554.	3.6	5
41	Data assimilation approach to analysing systems of ordinary differential equations. , 2018, , .		3
42	Bound-constrained global optimization of functions with low effective dimensionality using multiple random embeddings. Mathematical Programming, 2023, 198, 997-1058.	2.4	2
43	A note about the complexity of minimizing Nesterov's smooth Chebyshev–Rosenbrock function. Optimization Methods and Software, 2013, 28, 451-457.	2.4	1
44	Active-set prediction for interior point methods using controlled perturbations. Computational Optimization and Applications, 2016, 63, 639-684.	1.6	1
45	On monotonic estimates of the norm of the minimizers of regularized quadratic functions in Krylov spaces. BIT Numerical Mathematics, 2020, 60, 583-589.	2.0	0