Ernesto JuliÃ¡n Goldberg Birgin

List of Publications by Year
in descending order

102 papers	10,395 citations	159585 30 h-index	39675 94 g-index
104 all docs	104 docs citations	104 times ranked	9228 citing authors

#	Article	IF	Citations
1	P<scp>ACKMOL</scp>: A package for building initial configurations for molecular dynamics simulations. Journal of Computational Chemistry, 2009, 30, 2157-2164.	3.3	5,831
2	Nonmonotone Spectral Projected Gradient Methods on Convex Sets. SIAM Journal on Optimization, 2000, 10, 1196-1211.	2.0	775
3	On Augmented Lagrangian Methods with General Lower-Level Constraints. SIAM Journal on Optimization, 2008, 18, 1286-1309.	2.0	280
4	A Spectral Conjugate Gradient Method for Unconstrained Optimization. Applied Mathematics and Optimization, 2001, 43, 117-128.	1.6	251
5	Estimation of the Optical Constants and the Thickness of Thin Films Using Unconstrained Optimization. Journal of Computational Physics, 1999, 151, 862-880.	3.8	238
6	Algorithm 813. ACM Transactions on Mathematical Software, 2001, 27, 340-349.	2.9	212
7	Large-Scale Active-Set Box-Constrained Optimization Method with Spectral Projected Gradients. Computational Optimization and Applications, 2002, 23, 101-125.	1.6	154
8	Inexact spectral projected gradient methods on convex sets. IMA Journal of Numerical Analysis, 2003, 23, 539-559.	2.9	136
9	Augmented Lagrangian methods under the constant positive linear dependence constraint qualification. Mathematical Programming, 2007, 111, 5-32.	2.4	120
10	Optimizing the packing of cylinders into a rectangular container: A nonlinear approach. European Journal of Operational Research, 2005, 160, 19-33.	5.7	109
11	Improving ultimate convergence of an augmented Lagrangian method. Optimization Methods and Software, 2008, 23, 177-195.	2.4	108
12	Spectral Projected Gradient Methods: Review and Perspectives. Journal of Statistical Software, 2014, 60, .	3.7	103
13	Minimizing the object dimensions in circle and sphere packing problems. Computers and Operations Research, 2008, 35, 2357-2375.	4.0	98
14	Numerical Comparison of Augmented Lagrangian Algorithms for Nonconvex Problems. Computational Optimization and Applications, 2005, 31, 31-55.	1.6	95
15	Global minimization using an Augmented Lagrangian method with variable lower-level constraints. Mathematical Programming, 2010, 125, 139-162.	2.4	95
16	Determination of thickness and optical constants of amorphous silicon films from transmittance data. Applied Physics Letters, 2000, 77, 2133-2135.	3.3	85
17	Worst-case evaluation complexity for unconstrained nonlinear optimization using high-order regularized models. Mathematical Programming, 2017, 163, 359-368.	2.4	84
18	Optical constants and thickness determination of very thin amorphous semiconductor films. Journal of Applied Physics, 2002, 92, 3093-3102.	2.5	58

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19	New and improved results for packing identical unitary radius circles within triangles, rectangles and strips. Computers and Operations Research, 2010, 37, 1318-1327.	4.0	50
20	A MILP model for an extended version of the Flexible Job Shop Problem. Optimization Letters, 2014, 8, 1417-1431.	1.6	48
21	List scheduling and beam search methods for the flexible job shop scheduling problem with sequencing flexibility. European Journal of Operational Research, 2015, 247, 421-440.	5.7	44
22	Globally Convergent Inexact Quasi-Newton Methods for Solving Nonlinear Systems. Numerical Algorithms, 2003, 32, 249-260.	1.9	43
23	Augmented Lagrangian method with nonmonotone penalty parameters for constrained optimization. Computational Optimization and Applications, 2012, 51, 941-965.	1.6	41
24	Orthogonal packing of rectangular items within arbitrary convex regions by nonlinear optimization. Computers and Operations Research, 2006, 33, 3535-3548.	4.0	40
25	Optimization techniques for the estimation of the thickness and the optical parameters of thin films using reflectance data. Journal of Applied Physics, 2005, 97, 043512.	2.5	36
26	An effective recursive partitioning approach for the packing of identical rectangles in a rectangle. Journal of the Operational Research Society, 2010, 61, 306-320.	3.4	36
27	Local Convergence of an Inexact-Restoration Method and Numerical Experiments. Journal of Optimization Theory and Applications, 2005, 127, 229-247.	1.5	34
28	Packing ellipsoids by nonlinear optimization. Journal of Global Optimization, 2016, 65, 709-743.	1.8	33
29	Mixed Integer linear programming and constraint programming models for the online printing shop scheduling problem. Computers and Operations Research, 2020, 123, 105020.	4.0	33
30	Second-order negative-curvature methods forÂbox-constrained and general constrained optimization. Computational Optimization and Applications, 2010, 45, 209-236.	1.6	32
31	Twoâ€stage twoâ€dimensional guillotine cutting stock problems with usable leftover. International Transactions in Operational Research, 2016, 23, 121-145.	2.7	32
32	The Use of Quadratic Regularization with a Cubic Descent Condition for Unconstrained Optimization. SIAM Journal on Optimization, 2017, 27, 1049-1074.	2.0	30
33	Restricted optimization: a clue to a fast and accurate implementation of the Common Reflection Surface Stack method. Journal of Applied Geophysics, 1999, 42, 143-155.	2.1	28
34	Augmented Lagrangians with constrained subproblems and convergence to second-order stationary points. Computational Optimization and Applications, 2018, 69, 51-75.	1.6	28
35	Practical active-set Euclidian trust-region method with spectral projected gradients for bound-constrained minimization. Optimization, 2005, 54, 305-325.	1.7	27
36	Structured minimal-memory inexact quasi-Newton method and secant preconditioners for augmented Lagrangian optimization. Computational Optimization and Applications, 2008, 39, 1-16.	1.6	27

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37	Automatic differentiation and spectral projected gradient methods for optimal control problems. Optimization Methods and Software, 1998, 10, 125-146.	2.4	26
38	Orthogonal packing of identical rectangles within isotropic convex regions. Computers and Industrial Engineering, 2010, 59, 595-602.	6.3	26
39	Evaluation Complexity for Nonlinear Constrained Optimization Using Unscaled KKT Conditions and High-Order Models. SIAM Journal on Optimization, 2016, 26, 951-967.	2.0	26
40	Generating unconstrained two-dimensional non-guillotine cutting patterns by a Recursive Partitioning Algorithm. Journal of the Operational Research Society, 2012, 63, 183-200.	3.4	25
41	Packing circles within ellipses. International Transactions in Operational Research, 2013, 20, 365-389.	2.7	25
42	Complexity and performance of an Augmented Lagrangian algorithm. Optimization Methods and Software, 2020, 35, 885-920.	2.4	25
43	Robust Stopping Criteria for Dykstra's Algorithm. SIAM Journal of Scientific Computing, 2005, 26, 1405-1414.	2.8	24
44	The boundedness of penalty parameters in an augmented Lagrangian method with constrained subproblems. Optimization Methods and Software, 2012, 27, 1001-1024.	2.4	24
45	A Box-Constrained Optimization Algorithm with Negative Curvature Directions and Spectral Projected Gradients. Computing Supplementum, 2001, , 49-60.	0.1	19
46	A note on an L-approach for solving the manufacturer's pallet loading problem. Journal of the Operational Research Society, 2005, 56, 1448-1451.	3.4	19
47	Method of sentinels for packing items within arbitrary convex regions. Journal of the Operational Research Society, 2006, 57, 735-746.	3.4	19
48	Mixed-Integer Programming Models for Flowshop Scheduling Problems Minimizing the Total Earliness and Tardiness. Springer Optimization and Its Applications, 2012, , 91-105.	0.9	19
49	MIP models for two-dimensional non-guillotine cutting problems with usable leftovers. Journal of the Operational Research Society, 2014, 65, 1649-1663.	3.4	19
50	Evaluating bound-constrained minimization software. Computational Optimization and Applications, 2012, 53, 347-373.	1.6	18
51	Models for the two€dimensional rectangular single large placement problem with guillotine cuts and constrained pattern. International Transactions in Operational Research, 2020, 27, 767-793.	2.7	17
52	Optimization problems in the estimation of parameters of thin films and the elimination of the influence of the substrate. Journal of Computational and Applied Mathematics, 2003, 152, 35-50.	2.0	16
53	Spectral projected gradient and variable metric methods for optimization with linear inequalities. IMA Journal of Numerical Analysis, 2005, 25, 221-252.	2.9	16
54	A nonlinear programming model with implicit variables for packing ellipsoids. Journal of Global Optimization, 2017, 68, 467-499.	1.8	16

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55	On Regularization and Active-set Methods with Complexity for Constrained Optimization. SIAM Journal on Optimization, 2018, 28, 1367-1395.	2.0	16
56	A filtered beam search method for the m-machine permutation flowshop scheduling problem minimizing the earliness and tardiness penalties and the waiting time of the jobs. Computers and Operations Research, 2020, 114, 104824.	4.0	15
57	Assessing the reliability of general-purpose Inexact Restoration methods. Journal of Computational and Applied Mathematics, 2015, 282, 1-16.	2.0	14
58	On the employment of inexact restoration for the minimization of functions whose evaluation is subject to errors. Mathematics of Computation, 2017, 87, 1307-1326.	2.1	14
59	A matheuristic approach with nonlinear subproblems for large-scale packing of ellipsoids. European Journal of Operational Research, 2019, 272, 447-464.	5.7	14
60	The multiperiod two‐dimensional non‐guillotine cutting stock problem with usable leftovers. International Transactions in Operational Research, 2020, 27, 1392-1418.	2.7	14
61	Metaheuristics for the online printing shop scheduling problem. European Journal of Operational Research, 2021, 293, 419-441.	5.7	14
62	Spectral Projected Gradient Methods. , 2008, , 3652-3659.		14
63	Estimation of optical parameters of very thin films. Applied Numerical Mathematics, 2003, 47, 109-119.	2.1	13
64	Estimation of the thickness and the optical parameters of several stacked thin films using optimization. Applied Optics, 2008, 47, 5208.	2.1	13
65	Minimization subproblems and heuristics for an applied clustering problem. European Journal of Operational Research, 2003, 146, 19-34.	5.7	12
66	Optimality properties of an Augmented Lagrangian method on infeasible problems. Computational Optimization and Applications, 2015, 60, 609-631.	1.6	12
67	A Newton-like method with mixed factorizations and cubic regularization for unconstrained minimization. Computational Optimization and Applications, 2019, 73, 707-753.	1.6	12
68	Partial spectral projected gradient method with active-set strategy for linearly constrained optimization. Numerical Algorithms, 2010, 53, 23-52.	1.9	11
69	Sparse Projected-Gradient Method As a Linear-Scaling Low-Memory Alternative to Diagonalization in Self-Consistent Field Electronic Structure Calculations. Journal of Chemical Theory and Computation, 2013, 9, 1043-1051.	5.3	11
70	Augmented Lagrangians with possible infeasibility and finite termination for global nonlinear programming. Journal of Global Optimization, 2014, 58, 207-242.	1.8	11
71	Outer Trust-Region Method for Constrained Optimization. Journal of Optimization Theory and Applications, 2011, 150, 142-155.	1.5	10
72	Heuristic methods for the single machine scheduling problem with different ready times and a common due date. Engineering Optimization, 2012, 44, 1197-1208.	2.6	10

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73	Sequential equality-constrained optimization for nonlinear programming. Computational Optimization and Applications, 2016, 65, 699-721.	1.6	10
74	Low order-value approach for solving VaR-constrained optimization problems. Journal of Global Optimization, 2011, 51, 715-742.	1.8	9
75	Symmetry-breaking constraints for packing identical rectangles within polyhedra. Optimization Letters, 2013, 7, 375-405.	1.6	9
76	Metaheuristics for large-scale instances of the linear ordering problem. Expert Systems With Applications, 2015, 42, 4432-4442.	7.6	9
77	Iteration and evaluation complexity for the minimization of functions whose computation is intrinsically inexact. Mathematics of Computation, 2019, 89, 253-278.	2.1	9
78	On the use of third-order models with fourth-order regularization for unconstrained optimization. Optimization Letters, 2020, 14, 815-838.	1.6	9
79	An Augmented Lagrangian algorithm for nonlinear semidefinite programming applied to the covering problem. Computational and Applied Mathematics, 2020, 39, 1.	2.2	6
80	Using sentinels to detect intersections of convex and nonconvex polygons. Computational and Applied Mathematics, 2010, 29, .	2.2	6
81	Continuous GRASP with a local active-set method for bound-constrained global optimization. Journal of Global Optimization, 2010, 48, 289-310.	1.8	5
82	On the application of an augmented Lagrangian algorithm to some portfolio problems. EURO Journal on Computational Optimization, 2016, 4, 79-92.	2.4	5
83	On the minimization of possibly discontinuous functions by means of pointwise approximations. Optimization Letters, 2017, 11, 1623-1637.	1.6	5
84	Practical Augmented Lagrangian Methods. , 2008, , 3013-3023.		5
85	Deterministic and stochastic global optimization techniques for planar covering with ellipses problems. European Journal of Operational Research, 2013, 224, 23-40.	5.7	4
86	A Shape Optimization Approach to the Problem of Covering a Two-Dimensional Region with Minimum-Radius Identical Balls. SIAM Journal of Scientific Computing, 2021, 43, A2047-A2078.	2.8	4
87	A Shape-Newton Approach to the Problem of Covering with Identical Balls. SIAM Journal of Scientific Computing, 2022, 44, A798-A824.	2.8	3
88	Inexact restoration for derivative-free expensive function minimization and applications. Journal of Computational and Applied Mathematics, 2022, 410, 114193.	2.0	3
89	Block coordinate descent for smooth nonconvex constrained minimization. Computational Optimization and Applications, 2022, 83, 1-27.	1.6	3
90	An inner–outer nonlinear programming approach for constrained quadratic matrix model updating. Mechanical Systems and Signal Processing, 2016, 66-67, 78-88.	8.0	2

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91	Accelerated derivative-free nonlinear least-squares applied to the estimation of Manning coefficients. Computational Optimization and Applications, 2022, 81, 689.	1.6	2
92	Solution Of Bounded Nonlinear Systems Of Equations Using Homotopies With Inexact Restoration. International Journal of Computer Mathematics, 2003, 80, 211-222.	1.8	1
93	On the complexity of solving feasibility problems with regularized models. Optimization Methods and Software, 2020, , 1-20.	2.4	1
94	On constrained optimization with nonconvex regularization. Numerical Algorithms, 2021, 86, 1165-1188.	1.9	1
95	Dykstra's Algorithm and Robust Stopping Criteria. , 2008, , 828-833.		1
96	Applications of Nonlinear Programming to Packing Problems. Mathematics for Industry, 2016, , 31-39.	0.4	1
97	On complexity and convergence of high-order coordinate descent algorithms for smooth nonconvex box-constrained minimization. Journal of Global Optimization, 2022, 84, 527-561.	1.8	1
98	Preface of the special issue dedicated to the XII Brazilian workshop on continuous optimization. Computational Optimization and Applications, 2020, 76, 615-619.	1.6	0
99	On the solution of linearly constrained optimization problems by means of barrier algorithms. Top, 2021, 29, 417-441.	1.6	0
100	Special Issue on Nonlinear Programming dedicated to the ALIO-INFORMS Joint International Meeting 2010. Computational and Applied Mathematics, 2011, , .	2.2	0
101	FOREWORD SPECIAL ISSUE DEDICATED TO SELECTED SURVEYS IN NONLINEAR PROGRAMMING. Pesquisa Operacional, 2014, 34, 371-372.	0.4	0
102	CeMEAI: The Brazilian Center and Its Mathematics Research for Industry. Notices of the American Mathematical Society, 2017, 64, 450-454.	0.2	0