

Stephen Boyd

List of Publications by Year in descending order

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99
papers

43,039
citations

185998

28
h-index

133063

59
g-index

100
all docs

100
docs citations

100
times ranked

26684
citing authors

#	ARTICLE	IF	CITATIONS
1	Applications of second-order cone programming. Linear Algebra and Its Applications, 1998, 284, 193-228.	0.4	1,924
2	Fast Model Predictive Control Using Online Optimization. IEEE Transactions on Control Systems Technology, 2010, 18, 267-278.	3.2	987
3	A tutorial on geometric programming. Optimization and Engineering, 2007, 8, 67-127.	1.3	926
4	CVXGEN: a code generator for embedded convex optimization. Optimization and Engineering, 2012, 13, 1-27.	1.3	630
5	ECOS: An SOCP solver for embedded systems. , 2013, , .		368
6	A rewriting system for convex optimization problems. Journal of Control and Decision, 2018, 5, 42-60.	0.7	328
7	Conic Optimization via Operator Splitting and Homogeneous Self-Dual Embedding. Journal of Optimization Theory and Applications, 2016, 169, 1042-1068.	0.8	320
8	Compressed Sensing With Quantized Measurements. IEEE Signal Processing Letters, 2010, 17, 149-152.	2.1	237
9	Real-Time Convex Optimization in Signal Processing. IEEE Signal Processing Magazine, 2010, 27, 50-61.	4.6	226
10	Structured and simultaneous Lyapunov functions for system stability problems. International Journal of Control, 1989, 49, 2215-2240.	1.2	215
11	Receding Horizon Control. IEEE Control Systems, 2011, 31, 52-65.	1.0	191
12	Extending Scope of Robust Optimization: Comprehensive Robust Counterparts of Uncertain Problems. Mathematical Programming, 2006, 107, 63-89.	1.6	156
13	Linear Convergence and Metric Selection for Douglas-Rachford Splitting and ADMM. IEEE Transactions on Automatic Control, 2017, 62, 532-544.	3.6	147
14	A Splitting Method for Optimal Control. IEEE Transactions on Control Systems Technology, 2013, 21, 2432-2442.	3.2	122
15	MIMO PID tuning via iterated LMI restriction. International Journal of Robust and Nonlinear Control, 2016, 26, 1718-1731.	2.1	115
16	Imputing a convex objective function. , 2011, , .		106
17	Minimum-time speed optimisation over a fixed path. International Journal of Control, 2014, 87, 1297-1311.	1.2	103
18	Cutting-set methods for robust convex optimization with pessimizing oracles. Optimization Methods and Software, 2009, 24, 381-406.	1.6	99

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19	Tractable approximate robust geometric programming. Optimization and Engineering, 2008, 9, 95-118.	1.3	80
20	A simple effective heuristic for embedded mixed-integer quadratic programming. International Journal of Control, 2020, 93, 2-12.	1.2	74
21	Multi-Period Trading via Convex Optimization. Foundations and Trends® in Optimization, 2017, 3, 1-76.	7.2	62
22	Block splitting for distributed optimization. Mathematical Programming Computation, 2014, 6, 77-102.	3.2	61
23	OSQP: An Operator Splitting Solver for Quadratic Programs. , 2018, , .		61
24	Load reduction of wind turbines using receding horizon control. , 2011, , .		60
25	Approximate dynamic programming via iterated Bellman inequalities. International Journal of Robust and Nonlinear Control, 2015, 25, 1472-1496.	2.1	55
26	Analysis and Synthesis of State-Feedback Controllers With Timing Jitter. IEEE Transactions on Automatic Control, 2009, 54, 652-657.	3.6	51
27	Performance bounds for linear stochastic control. Systems and Control Letters, 2009, 58, 178-182.	1.3	51
28	Processor Speed Control With Thermal Constraints. IEEE Transactions on Circuits and Systems I: Regular Papers, 2009, 56, 1994-2008.	3.5	46
29	Nonconvex model predictive control for commercial refrigeration. International Journal of Control, 2013, 86, 1349-1366.	1.2	45
30	Infeasibility Detection in the Alternating Direction Method of Multipliers for Convex Optimization. Journal of Optimization Theory and Applications, 2019, 183, 490-519.	0.8	40
31	An Efficient Method for Compressed Sensing. , 2007, , .		38
32	Estimation of faults in DC electrical power system. , 2009, , .		38
33	Diagonal scaling in Douglas-Rachford splitting and ADMM. , 2014, , .		38
34	CVXPY: A Python-Embedded Modeling Language for Convex Optimization. Journal of Machine Learning Research, 2016, 17, .	62.4	38
35	Embedded code generation using the OSQP solver. , 2017, , .		34
36	Multi-period portfolio selection with drawdown control. Annals of Operations Research, 2019, 282, 245-271.	2.6	34

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37	Robust design of slow-light tapers in periodic waveguides. <i>Engineering Optimization</i> , 2009, 41, 365-384.	1.5	32
38	Fastest Mixing Markov Chain on a Path. <i>American Mathematical Monthly</i> , 2006, 113, 70-74.	0.2	30
39	Design of Low-Bandwidth Spatially Distributed Feedback. <i>IEEE Transactions on Automatic Control</i> , 2008, 53, 257-272.	3.6	28
40	Security Constrained Optimal Power Flow via proximal message passing. , 2014, , .		28
41	Temperature Control of High-Performance Multi-core Platforms Using Convex Optimization. , 2008, , .		26
42	A Tractable Method for Robust Downlink Beamforming in Wireless Communications. <i>Conference Record of the Asilomar Conference on Signals, Systems and Computers</i> , 2007, , .	0.0	25
43	Shrinkingâ€ˆhorizon dynamic programming. <i>International Journal of Robust and Nonlinear Control</i> , 2010, 20, 1993-2002.	2.1	25
44	Monotonicity and restart in fast gradient methods. , 2014, , .		25
45	Beamforming With Uncertain Weights. <i>IEEE Signal Processing Letters</i> , 2007, 14, 348-351.	2.1	23
46	State smoothing by sum-of-norms regularization. , 2010, , .		22
47	Embedded Mixed-Integer Quadratic optimization Using the OSQP Solver. , 2018, , .		21
48	Preconditioning in fast dual gradient methods. , 2014, , .		20
49	Quadratic approximate dynamic programming for inputâ€ˆaffine systems. <i>International Journal of Robust and Nonlinear Control</i> , 2014, 24, 432-449.	2.1	20
50	Disciplined geometric programming. <i>Optimization Letters</i> , 2019, 13, 961-976.	0.9	20
51	Disciplined quasiconvex programming. <i>Optimization Letters</i> , 2020, 14, 1643-1657.	0.9	18
52	Performance bounds and suboptimal policies for linear stochastic control via LMIs. <i>International Journal of Robust and Nonlinear Control</i> , 2011, 21, 1710-1728.	2.1	14
53	A distributed algorithm for fitting generalized additive models. <i>Optimization and Engineering</i> , 2013, 14, 213-224.	1.3	14
54	Convex Optimization with Abstract Linear Operators. , 2015, , .		14

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55	Wireless NUM: Rate and Reliability Tradeoffs in Random Environment. , 2009, , .		13
56	A perspective-based convex relaxation for switched-affine optimal control. Systems and Control Letters, 2015, 86, 34-40.	1.3	13
57	Trajectory generation using sum-of-norms regularization. , 2010, , .		12
58	Optimal current waveforms for brushless permanent magnet motors. International Journal of Control, 2015, 88, 1389-1399.	1.2	12
59	Dynamic energy management with scenario-based robust MPC. , 2017, , .		11
60	Variable Metric Proximal Gradient Method with Diagonal Barzilai-Borwein Stepsize. , 2020, , .		11
61	MPC for wind power gradients "utilizing forecasts, rotor inertia, and central energy storage. , 2013, , .		11
62	Non-parametric regression modeling for stochastic optimization of power grid load forecast. , 2015, , .		10
63	A convex optimization approach to radiation treatment planning with dose constraints. Optimization and Engineering, 2019, 20, 277-300.	1.3	10
64	Bounds for Scattering from Absorptionless Electromagnetic Structures. Physical Review Applied, 2020, 14, .	1.5	10
65	Moving horizon estimation for staged QP problems. , 2012, , .		8
66	Learning the kernel via convex optimization. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	7
67	Cross-Layer Design with Adaptive Modulation: Delay, Rate, and Energy Tradeoffs. , 2008, , .		7
68	Techniques for exploring the suboptimal set. Optimization and Engineering, 2010, 11, 319-337.	1.3	7
69	Solution refinement at regular points of conic problems. Computational Optimization and Applications, 2019, 74, 627-643.	0.9	7
70	Infeasibility Detection in the Alternating Direction Method of Multipliers for Convex Optimization. , 2018, , .		6
71	Iterated approximate value functions. , 2013, , .		6
72	Robust Chebyshev FIR Equalization. , 2007, , .		5

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73	Real-Time Radiation Treatment Planning with Optimality Guarantees via Cluster and Bound Methods. <i>INFORMS Journal on Computing</i> , 2019, 31, 544-558.	1.0	5
74	Minimizing a sum of clipped convex functions. <i>Optimization Letters</i> , 2020, 14, 2443-2459.	0.9	5
75	Mixed state estimation for a linear Gaussian Markov model. , 2008, , .		4
76	Prediction error methods in learning jump ARMAX models. , 2018, , .		4
77	Tax-Aware Portfolio Construction via Convex Optimization. <i>Journal of Optimization Theory and Applications</i> , 2021, 189, 364-383.	0.8	4
78	Structured and simultaneous Lyapunov functions for system stability problems. , 0, .		4
79	A Distributed Method for Optimal Capacity Reservation. <i>Journal of Optimization Theory and Applications</i> , 2019, 182, 1130-1149.	0.8	3
80	Automatic repair of convex optimization problems. <i>Optimization and Engineering</i> , 2021, 22, 247-259.	1.3	3
81	Stochastic Control With Affine Dynamics and Extended Quadratic Costs. <i>IEEE Transactions on Automatic Control</i> , 2022, 67, 320-335.	3.6	3
82	Optimal representative sample weighting. <i>Statistics and Computing</i> , 2021, 31, 1.	0.8	3
83	Convex restrictions in physical design. <i>Scientific Reports</i> , 2021, 11, 12976.	1.6	3
84	A Linear Programming Approach for the Worst-Case Norm of Uncertain Linear Systems Subject to Disturbances with Magnitude and Rate Bounds. , 2006, , .		2
85	Array Signal Processing with Robust Rejection Constraints via Second-Order Cone Programming. , 2006, , .		2
86	Network optimization for unified packet and circuit switched networks. <i>Optimization and Engineering</i> , 2020, 21, 159-180.	1.3	2
87	A Certainty Equivalent Merton Problem. , 2022, 6, 1478-1483.		2
88	Embedded Code Generation With CVXPY. , 2022, 6, 2653-2658.		2
89	A minimax theorem with applications to machine learning, signal processing, and finance. , 2007, , .		1
90	An Efficient Method for Large-Scale ℓ_1 -Regularized Convex Loss Minimization. , 2007, , .		1

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91	A New Architecture for Optimization Modeling Frameworks. , 2016, , .		1
92	SnapVX: A Network-Based Convex Optimization Solver. Journal of Machine Learning Research, 2017, 18, 110-114.	62.4	1
93	Minimizing oracle-structured composite functions. Optimization and Engineering, 2023, 24, 743-777.	1.3	1
94	Operator splitting for adaptive radiation therapy with nonlinear health dynamics. Optimization Methods and Software, 2022, 37, 2300-2323.	1.6	1
95	Fitting feature-dependent Markov chains. Journal of Global Optimization, 2023, 87, 329-346.	1.1	1
96	Mixed state estimation for a linear Gaussian Markov model. , 2008, , .		0
97	A Certainty Equivalent Merton Problem. SSRN Electronic Journal, 0, , .	0.4	0
98	Saturating Splines and Feature Selection. Journal of Machine Learning Research, 2018, 18, .	62.4	0
99	Confidence bands for a log-concave density. Journal of Computational and Graphical Statistics, 0, , 1-23.	0.9	0