Alexander Shapiro

List of Publications by Year
in descending order

117 papers	13,889 citations	50276 46 h-index	33894 99 g-index
122 all docs	122 docs citations	122 times ranked	6514 citing authors

#	Article	IF	Citations
1	Perturbation Analysis of Optimization Problems. , 2000, , .		1,387
2	The Sample Average Approximation Method for Stochastic Discrete Optimization. SIAM Journal on Optimization, 2002, 12, 479-502.	2.0	1,310
3	A stochastic programming approach for supply chain network design under uncertainty. European Journal of Operational Research, 2005, 167, 96-115.	5.7	870
4	Convex Approximations of Chance Constrained Programs. SIAM Journal on Optimization, 2007, 17, 969-996.	2.0	787
5	On the multivariate asymptotic distribution of sequential Chi-square statistics. Psychometrika, 1985, 50, 253-263.	2.1	421
6	Lectures on Stochastic Programming: Modeling and Theory, Second Edition. , 2014, , .		390
7	Sample Average Approximation Method for Chance Constrained Programming: Theory and Applications. Journal of Optimization Theory and Applications, 2009, 142, 399-416.	1.5	378
8	Monte Carlo Sampling Methods. Handbooks in Operations Research and Management Science, 2003, 10, 353-425.	0.6	364
9	Title is missing!. Computational Optimization and Applications, 2003, 24, 289-333.	1.6	337
10	Optimization of Convex Risk Functions. Mathematics of Operations Research, 2006, 31, 433-452.	1.3	335
11	Analysis of stochastic dual dynamic programming method. European Journal of Operational Research, 2011, 209, 63-72.	5.7	287
12	The empirical behavior of sampling methods for stochastic programming. Annals of Operations Research, 2006, 142, 215-241.	4.1	285
13	Stochastic Programming Models. Handbooks in Operations Research and Management Science, 2003, 10, 1-64.	0.6	229
14	On the Rate of Convergence of Optimal Solutions of Monte Carlo Approximations of Stochastic Programs. SIAM Journal on Optimization, 2000, 11, 70-86.	2.0	194
15	Optimization Problems with Perturbations: A Guided Tour. SIAM Review, 1998, 40, 228-264.	9.5	189
16	A simulation-based approach to two-stage stochastic programming with recourse. Mathematical Programming, 1998, 81, 301-325.	2.4	187
17	Risk neutral and risk averse Stochastic Dual Dynamic Programming method. European Journal of Operational Research, 2013, 224, 375-391.	5.7	186
18	Conditional Risk Mappings. Mathematics of Operations Research, 2006, 31, 544-561.	1.3	184

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19	Asymptotic analysis of stochastic programs. Annals of Operations Research, 1991, 30, 169-186.	4.1	174
20	Minimax analysis of stochastic problems. Optimization Methods and Software, 2002, 17, 523-542.	2.4	168
21	Coherent risk measures in inventory problems. European Journal of Operational Research, 2007, 182, 226-238.	5.7	166
22	On Complexity of Stochastic Programming Problems. , 2005, , 111-146.		165
23	On Duality Theory of Conic Linear Problems. Nonconvex Optimization and Its Applications, 2001, , 135-165.	0.1	163
24	Stochastic programming approach to optimization under uncertainty. Mathematical Programming, 2007, 112, 183-220.	2.4	141
25	Second Order Optimality Conditions Based on Parabolic Second Order Tangent Sets. SIAM Journal on Optimization, 1999, 9, 466-492.	2.0	136
26	Asymptotic Theory of Overparameterized Structural Models. Journal of the American Statistical Association, 1986, 81, 142-149.	3.1	127
27	On a time consistency concept in risk averse multistage stochastic programming. Operations Research Letters, 2009, 37, 143-147.	0.7	124
28	Stochastic mathematical programs with equilibrium constraints, modelling and sample average approximation. Optimization, 2008, 57, 395-418.	1.7	115
29	Sensitivity Analysis of Nonlinear Programs and Differentiability Properties of Metric Projections. SIAM Journal on Control and Optimization, 1988, 26, 628-645.	2.1	113
30	Analysis of Covariance Structures under Elliptical Distributions. Journal of the American Statistical Association, 1987, 82, 1092-1097.	3.1	107
31	Statistical inference of minimum rank factor analysis. Psychometrika, 2002, 67, 79-94.	2.1	102
32	On complexity of multistage stochastic programs. Operations Research Letters, 2006, 34, 1-8.	0.7	100
33	Asymptotic Properties of Statistical Estimators in Stochastic Programming. Annals of Statistics, 1989, 17, 841.	2.6	99
34	On a Class of Minimax Stochastic Programs. SIAM Journal on Optimization, 2004, 14, 1237-1249.	2.0	95
35	Scenario Approximations of Chance Constraints. , 2006, , 3-47.		95
36	First and second order analysis of nonlinear semidefinite programs. Mathematical Programming, 1997, 77, 301-320.	2.4	93

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37	On Eigenvalue Optimization. SIAM Journal on Optimization, 1995, 5, 552-569.	2.0	92
38	Rank-reducibility of a symmetric matrix and sampling theory of minimum trace factor analysis. Psychometrika, 1982, 47, 187-199.	2.1	83
39	Distributionally Robust Stochastic Programming. SIAM Journal on Optimization, 2017, 27, 2258-2275.	2.0	82
40	Semi-infinite programming, duality, discretization and optimality conditionsâ€. Optimization, 2009, 58, 133-161.	1.7	78
41	Inference of statistical bounds for multistage stochastic programming problems. Mathematical Methods of Operations Research, 2003, 58, 57-68.	1.0	74
42	Solving Chance-Constrained Stochastic Programs via Sampling and Integer Programming. , 2008, , 261-269.		70
43	Asymptotic Behavior of Optimal Solutions in Stochastic Programming. Mathematics of Operations Research, 1993, 18, 829-845.	1.3	67
44	Risk neutral and risk averse approaches to multistage renewable investment planning under uncertainty. European Journal of Operational Research, 2016, 250, 979-989.	5.7	67
45	Finding Optimal Material Release Times Using Simulation-Based Optimization. Management Science, 1999, 45, 86-102.	4.1	63
46	Validation analysis of mirror descent stochastic approximation method. Mathematical Programming, 2012, 134, 425-458.	2.4	63
47	Identifiability of factor analysis: some results and open problems. Linear Algebra and Its Applications, 1985, 70, 1-7.	0.9	60
48	Minimax and risk averse multistage stochastic programming. European Journal of Operational Research, 2012, 219, 719-726.	5.7	60
49	Perturbation analysis of optimization problems in banach spaces. Numerical Functional Analysis and Optimization, 1992, 13, 97-116.	1.4	55
50	Sensitivity Analysis of Optimization Problems Under Second Order Regular Constraints. Mathematics of Operations Research, 1998, 23, 806-831.	1.3	50
51	Conditioning of convex piecewise linear stochastic programs. Mathematical Programming, 2002, 94, 1-19.	2.4	49
52	Weighted minimum trace factor analysis. Psychometrika, 1982, 47, 243-264.	2.1	46
53	Convergence Analysis of Sample Average Approximation of Two-Stage Stochastic Generalized Equations. SIAM Journal on Optimization, 2019, 29, 135-161.	2.0	43
54	Optimization of static simulation models by the score function method. Mathematics and Computers in Simulation, 1990, 32, 373-392.	4.4	42

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55	Modeling time-dependent randomness in stochastic dual dynamic programming. European Journal of Operational Research, 2019, 273, 650-661.	5.7	41
56	Simulation-based optimizationâ€"convergence analysis and statistical inference. Stochastic Models, 1996, 12, 425-454.	0.3	40
57	Time consistency of dynamic risk measures. Operations Research Letters, 2012, 40, 436-439.	0.7	40
58	Perturbation theory of nonlinear programs when the set of optimal solutions is not a singleton. Applied Mathematics and Optimization, 1988, 18, 215-229.	1.6	38
59	Minimum rank and minimum trace of covariance matrices. Psychometrika, 1982, 47, 443-448.	2.1	37
60	On duality theory of convex semi-infinite programming. Optimization, 2005, 54, 535-543.	1.7	37
61	Extremal problems on the set of nonnegative definite matrices. Linear Algebra and Its Applications, 1985, 67, 7-18.	0.9	35
62	Asymptotic Theory of Overparameterized Structural Models. Journal of the American Statistical Association, 1986, 81, 142.	3.1	35
63	The asymptotic bias of minimum trace factor analysis, with applications to the greatest lower bound to reliability. Psychometrika, 2000, 65, 413-425.	2.1	34
64	On Uniqueness of Lagrange Multipliers in Optimization Problems Subject to Cone Constraints. SIAM Journal on Optimization, 1997, 7, 508-518.	2.0	30
65	Second-Order Optimality Conditions in Generalized Semi-Infinite Programming. Set-Valued and Variational Analysis, 2001, 9, 169-186.	0.5	29
66	Duality and Optimality Conditions. Profiles in Operations Research, 2000, , 67-110.	0.4	29
67	Solving multistage asset investment problems by the sample average approximation method. Mathematical Programming, 2006, 108, 571-595.	2.4	28
68	Normal Versus Noncentral Chi-square Asymptotics of Misspecified Models. Multivariate Behavioral Research, 2009, 44, 803-827.	3.1	28
69	On Lipschitzian Stability of Optimal Solutions of Parametrized Semi-Infinite Programs. Mathematics of Operations Research, 1994, 19, 743-752.	1.3	27
70	Differentiability and semismoothness properties of integral functions and their applications. Mathematical Programming, 2005, 102, 223-248.	2.4	27
71	A dynamic programming approach to adjustable robust optimization. Operations Research Letters, 2011, 39, 83-87.	0.7	27
72	Nonparametric estimation of concave production technologies by entropic methods. Journal of Applied Econometrics, 2007, 22, 795-816.	2.3	26

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73	Worst-Case-Expectation Approach to Optimization Under Uncertainty. Operations Research, 2013, 61, 1435-1449.	1.9	26
74	Sensitivity Analysis of Parameterized Variational Inequalities. Mathematics of Operations Research, 2005, 30, 109-126.	1.3	23
75	Tutorial on risk neutral, distributionally robust and risk averse multistage stochastic programming. European Journal of Operational Research, 2021, 288, 1-13.	5.7	23
76	Worst-case distribution analysis of stochastic programs. Mathematical Programming, 2006, 107, 91-96.	2.4	22
77	Rectangular Sets of Probability Measures. Operations Research, 2016, 64, 528-541.	1.9	22
78	Nondegeneracy and Quantitative Stability of Parameterized Optimization Problems with Multiple Solutions. SIAM Journal on Optimization, 1998, 8, 940-946.	2.0	19
79	Augmented Lagrangians in semi-infinite programming. Mathematical Programming, 2009, 116, 499-512.	2.4	19
80	Analysis of Covariance Structures Under Elliptical Distributions. Journal of the American Statistical Association, 1987, 82, 1092.	3.1	19
81	Consistency of Sample Estimates of Risk Averse Stochastic Programs. Journal of Applied Probability, 2013, 50, 533-541.	0.7	17
82	Sample Average Approximation. , 2013, , 1350-1355.		17
83	Interchangeability principle and dynamic equations in risk averse stochastic programming. Operations Research Letters, 2017, 45, 377-381.	0.7	16
84	When Friends Become Competitors: The Design of Resource Exchange Alliances. Management Science, 2017, 63, 2127-2145.	4.1	16
85	Minimal representation of insurance prices. Insurance: Mathematics and Economics, 2015, 62, 184-193.	1.2	15
86	Matrix Completion With Deterministic Pattern: A Geometric Perspective. IEEE Transactions on Signal Processing, 2019, 67, 1088-1103.	5.3	13
87	Modified Distribution-Free Goodness-of-Fit Test Statistic. Psychometrika, 2018, 83, 48-66.	2.1	12
88	Technical Noteâ€"Time Inconsistency of Optimal Policies of Distributionally Robust Inventory Models. Operations Research, 2020, 68, 1576-1584.	1.9	12
89	Differentiability Properties of Metric Projections onto Convex Sets. Journal of Optimization Theory and Applications, 2016, 169, 953-964.	1.5	11
90	On the unsolvability of inverse eigenvalues problems almost everywhere. Linear Algebra and Its Applications, 1983, 49, 27-31.	0.9	10

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91	Asymptotics of minimax stochastic programs. Statistics and Probability Letters, 2008, 78, 150-157.	0.7	10
92	Bounds for nested law invariant coherent risk measures. Operations Research Letters, 2012, 40, 431-435.	0.7	8
93	Mathematical Foundations of Distributionally Robust Multistage Optimization. SIAM Journal on Optimization, 2021, 31, 3044-3067.	2.0	8
94	Directional differentiability of the optimal value function in convex semi-infinite programming. Mathematical Programming, 1995, 70, 149-157.	2.4	7
95	Asymptotic normality of test statistics under alternative hypotheses. Journal of Multivariate Analysis, 2009, 100, 936-945.	1.0	7
96	Simulation-based approach to estimation of latent variable models. Computational Statistics and Data Analysis, 2006, 51, 1243-1259.	1.2	6
97	Statistical inference of semidefinite programming. Mathematical Programming, 2019, 174, 77-97.	2.4	6
98	Risk neutral reformulation approach to risk averse stochastic programming. European Journal of Operational Research, 2020, 286, 21-31.	5.7	6
99	A Conjecture Related to Chi-Bar-Squared Distributions. American Mathematical Monthly, 1987, 94, 46-48.	0.3	5
100	A Central Limit Theorem and Hypotheses Testing for Risk-averse Stochastic Programs. SIAM Journal on Optimization, 2018, 28, 1337-1366.	2.0	5
101	Risk-Averse Stochastic Programming: Time Consistency and Optimal Stopping. Operations Research, 2022, 70, 2439-2455.	1.9	5
102	Scheffe's method for constructing simultaneous confidence intervals subject to cone constraints. Statistics and Probability Letters, 2003, 64, 403-406.	0.7	4
103	Comment on the Asymptotics of a Distribution-Free Goodness of Fit Test Statistic. Psychometrika, 2015, 80, 196-199.	2.1	4
104	Periodical Multistage Stochastic Programs. SIAM Journal on Optimization, 2020, 30, 2083-2102.	2.0	4
105	Topology Optimization With Many Right-Hand Sides Using Mirror Descent Stochastic Approximationâ€"Reduction From Many to a Single Sample. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	4
106	Distributionally robust Optimal Control and MDP modeling. Operations Research Letters, 2021, 49, 809-814.	0.7	3
107	On optimal choice of reference parameters in the likelihood ratio method. , 1992, , .		2
108	Statistical Rank Selection for Incomplete Low-rank Matrices. , 2019, , .		2

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109	Testing Rank of Incomplete Unimodal Matrices. IEEE Signal Processing Letters, 2021, 28, 877-881.	3.6	2
110	Goodness-of-Fit Tests on Manifolds. IEEE Transactions on Information Theory, 2021, 67, 2539-2553.	2.4	2
111	Risk exposure and Lagrange multipliers of nonanticipativity constraints in multistage stochastic problems. Mathematical Methods of Operations Research, 2013, 77, 393-405.	1.0	1
112	Resource Exchange Seller Alliances. SSRN Electronic Journal, 0, , .	0.4	1
113	Comments on â€œQuantifying Adventitious Error in a Covariance Structure as a Random Effectâ€•by Hao Wu and Michael Browne. Psychometrika, 2015, 80, 611-612.	2.1	1
114	Dual Bounds for Periodical Stochastic Programs. Operations Research, 2023, 71, 120-128.	1.9	1
115	Comments on: Stability in linear optimization and related topics. A personal tour. Top, 2012, 20, 261-264.	1.6	0
116	On Characteristic Rank for Matrix and Tensor Completion [Lecture Notes]. IEEE Signal Processing Magazine, 2021, 38, 125-129.	5.6	0
117	Central limit theorem and sample complexity of stationary stochastic programs. Operations Research Letters, 2021, 49, 676-681.	0.7	0