

Nicolas Gillis

List of Publications by Year in descending order

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2,205
citations

331259

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89
all docs

89
docs citations

89
times ranked

1636
citing authors

#	ARTICLE	IF	CITATIONS
1	Multi-resolution beta-divergence NMF for blind spectral unmixing. Signal Processing, 2022, 193, 108428.	2.1	6
2	Block Bregman Majorization Minimization with Extrapolation. SIAM Journal on Mathematics of Data Science, 2022, 4, 1-25.	1.0	2
3	Bounded Simplex-Structured Matrix Factorization. , 2022, , .		3
4	On the non-symmetric semidefinite Procrustes problem. Linear Algebra and Its Applications, 2022, 648, 133-159.	0.4	0
5	Minimal-norm static feedbacks using dissipative Hamiltonian matrices. Linear Algebra and Its Applications, 2021, 623, 258-281.	0.4	4
6	Generalized Separable Nonnegative Matrix Factorization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, 43, 1546-1561.	9.7	21
7	Multiplicative Updates for NMF with β -Divergences under Disjoint Equality Constraints. SIAM Journal on Matrix Analysis and Applications, 2021, 42, 730-752.	0.7	5
8	Successive Nonnegative Projection Algorithm for Linear Quadratic Mixtures. , 2021, , .		0
9	Distributionally Robust and Multi-Objective Nonnegative Matrix Factorization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, PP, 1-1.	9.7	3
10	Off-diagonal symmetric nonnegative matrix factorization. Numerical Algorithms, 2021, 88, 939-963.	1.1	4
11	Accelerating block coordinate descent for nonnegative tensor factorization. Numerical Linear Algebra With Applications, 2021, 28, e2373.	0.9	0
12	Algorithms for Nonnegative Matrix Factorization with the Kullback-Leibler Divergence. Journal of Scientific Computing, 2021, 87, 1.	1.1	22
13	Nonnegative Unimodal Matrix Factorization. , 2021, , .		0
14	A Block Inertial Bregman Proximal Algorithm for Nonsmooth Nonconvex Problems with Application to Symmetric Nonnegative Matrix Tri-Factorization. Journal of Optimization Theory and Applications, 2021, 190, 234-258.	0.8	8
15	Multi-block Bregman proximal alternating linearized minimization and its application to orthogonal nonnegative matrix factorization. Computational Optimization and Applications, 2021, 79, 681-715.	0.9	9
16	On a minimum enclosing ball of a collection of linear subspaces. Linear Algebra and Its Applications, 2021, 625, 248-278.	0.4	0
17	A geometric lower bound on the extension complexity of polytopes based on the $\langle \mathbf{m}, \mathbf{v} \rangle$ -vector. Discrete Applied Mathematics, 2021, 303, 22-38.	0.5	1
18	A survey on deep matrix factorizations. Computer Science Review, 2021, 42, 100423.	10.2	31

#	ARTICLE	IF	CITATIONS
19	Sparse Separable Nonnegative Matrix Factorization. Lecture Notes in Computer Science, 2021, , 335-350.	1.0	0
20	Simplex-Structured Matrix Factorization: Sparsity-Based Identifiability and Provably Correct Algorithms. SIAM Journal on Mathematics of Data Science, 2021, 3, 593-623.	1.0	8
21	Beyond linear subspace clustering: A comparative study of nonlinear manifold clustering algorithms. Computer Science Review, 2021, 42, 100435.	10.2	14
22	Structured nonnegative matrix factorization for traffic flow estimation of large cloud networks. Computer Networks, 2021, 201, 108564.	3.2	3
23	Provably Robust Blind Source Separation of Linear-Quadratic Near-Separable Mixtures. SIAM Journal on Imaging Sciences, 2021, 14, 1848-1889.	1.3	2
24	Inertial Majorization-Minimization Algorithm for Minimum-Volume NMF. , 2021, , .		3
25	Exact Biobjective k-Sparse Nonnegative Least Squares. , 2021, , .		1
26	Deep orthogonal matrix factorization as a hierarchical clustering technique. , 2021, , .		2
27	Fast algorithm for complex-NMF with application to source separation. , 2021, , .		0
28	A note on approximating the nearest stable discrete-time descriptor systems with fixed rank. Applied Numerical Mathematics, 2020, 148, 131-139.	1.2	4
29	Near-Convex Archetypal Analysis. IEEE Signal Processing Letters, 2020, 27, 81-85.	2.1	7
30	Optimizing over the properly efficient set of convex multi-objective optimization problems. Annals of Operations Research, 2020, 295, 575-604.	2.6	0
31	Extrapolated Alternating Algorithms for Approximate Canonical Polyadic Decomposition. , 2020, , .		3
32	Exact Sparse Nonnegative Least Squares. , 2020, , .		5
33	Computing Large-Scale Matrix and Tensor Decomposition With Structured Factors: A Unified Nonconvex Optimization Perspective. IEEE Signal Processing Magazine, 2020, 37, 78-94.	4.6	11
34	Blind Audio Source Separation With Minimum-Volume Beta-Divergence NMF. IEEE Transactions on Signal Processing, 2020, 68, 3400-3410.	3.2	39
35	On approximating the nearest $\hat{\sigma}$ -stable matrix. Numerical Linear Algebra With Applications, 2020, 27, e2282.	0.9	0
36	A Provably Correct and Robust Algorithm for Convolutional Nonnegative Matrix Factorization. IEEE Transactions on Signal Processing, 2020, , 1-1.	3.2	3

#	ARTICLE	IF	CITATIONS
37	Separable Simplex-structured Matrix Factorization: Robustness of Combinatorial Approaches. , 2019, , .		2
38	Minimum-volume Rank-deficient Nonnegative Matrix Factorizations. , 2019, , .		17
39	Algorithms and Comparisons of Nonnegative Matrix Factorizations With Volume Regularization for Hyperspectral Unmixing. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2019, 12, 4843-4853.	2.3	33
40	Low-rank matrix approximation in the infinity norm. Linear Algebra and Its Applications, 2019, 581, 367-382.	0.4	4
41	Nonnegative Low-rank Sparse Component Analysis. , 2019, , .		3
42	Accelerating Nonnegative Matrix Factorization Algorithms Using Extrapolation. Neural Computation, 2019, 31, 417-439.	1.3	30
43	Scalable and robust sparse subspace clustering using randomized clustering and multilayer graphs. Signal Processing, 2019, 163, 166-180.	2.1	24
44	Orthogonal joint sparse NMF for microarray data analysis. Journal of Mathematical Biology, 2019, 79, 223-247.	0.8	14
45	Approximating the nearest stable discrete-time system. Linear Algebra and Its Applications, 2019, 573, 37-53.	0.4	11
46	Improved SVD-based initialization for nonnegative matrix factorization using low-rank correction. Pattern Recognition Letters, 2019, 122, 53-59.	2.6	28
47	Successive Projection Algorithm Robust to Outliers. , 2019, , .		5
48	Identifiability of Complete Dictionary Learning. SIAM Journal on Mathematics of Data Science, 2019, 1, 518-536.	1.0	3
49	Dictionary-Based Tensor Canonical Polyadic Decomposition. IEEE Transactions on Signal Processing, 2018, 66, 1876-1889.	3.2	13
50	Spectral Unmixing With Multiple Dictionaries. IEEE Geoscience and Remote Sensing Letters, 2018, 15, 187-191.	1.4	6
51	Multiplicative updates for polynomial root finding. Information Processing Letters, 2018, 132, 14-18.	0.4	1
52	A semi-analytical approach for the positive semidefinite Procrustes problem. Linear Algebra and Its Applications, 2018, 540, 112-137.	0.4	6
53	Finding the Nearest Positive-Real System. SIAM Journal on Numerical Analysis, 2018, 56, 1022-1047.	1.1	16
54	Computing the nearest stable matrix pairs. Numerical Linear Algebra With Applications, 2018, 25, e2153.	0.9	16

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55	Algorithms for positive semidefinite factorization. Computational Optimization and Applications, 2018, 71, 193-219.	0.9	7
56	UTA-poly and UTA-splines: Additive value functions with polynomial marginals. European Journal of Operational Research, 2018, 264, 405-418.	3.5	21
57	A Fast Gradient Method for Nonnegative Sparse Regression With Self-Dictionary. IEEE Transactions on Image Processing, 2018, 27, 24-37.	6.0	19
58	Volume regularized non-negative matrix factorizations. , 2018, , .		1
59	On the Complexity of Robust PCA and ℓ_1 -Norm Low-Rank Matrix Approximation. Mathematics of Operations Research, 2018, 43, 1072-1084.	0.8	22
60	On the linear extension complexity of regular n-gons. Linear Algebra and Its Applications, 2017, 521, 217-239.	0.4	4
61	Solving the Maximum Clique Problem with Symmetric Rank-One Non-negative Matrix Approximation. Journal of Optimization Theory and Applications, 2017, 173, 279-296.	0.8	11
62	On computing the distance to stability for matrices using linear dissipative Hamiltonian systems. Automatica, 2017, 85, 113-121.	3.0	32
63	Sequential dimensionality reduction for extracting localized features. Pattern Recognition, 2017, 63, 15-29.	5.1	21
64	A new approach to dictionary-based nonnegative matrix factorization. , 2017, , .		2
65	Some Theory on Non-negative Tucker Decomposition. Lecture Notes in Computer Science, 2017, , 152-161.	1.0	4
66	Efficient and Non-Convex Coordinate Descent for Symmetric Nonnegative Matrix Factorization. IEEE Transactions on Signal Processing, 2016, 64, 5571-5584.	3.2	27
67	Heuristics for exact nonnegative matrix factorization. Journal of Global Optimization, 2016, 65, 369-400.	1.1	24
68	Enhancing Pure-Pixel Identification Performance via Preconditioning. SIAM Journal on Imaging Sciences, 2015, 8, 1161-1186.	1.3	9
69	Semidefinite Programming Based Preconditioning for More Robust Near-Separable Nonnegative Matrix Factorization. SIAM Journal on Optimization, 2015, 25, 677-698.	1.2	27
70	Exact and Heuristic Algorithms for Semi-Nonnegative Matrix Factorization. SIAM Journal on Matrix Analysis and Applications, 2015, 36, 1404-1424.	0.7	15
71	Hierarchical Clustering of Hyperspectral Images Using Rank-Two Nonnegative Matrix Factorization. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 2066-2078.	2.7	95
72	A continuous characterization of the maximum-edge biclique problem. Journal of Global Optimization, 2014, 58, 439-464.	1.1	20

#	ARTICLE	IF	CITATIONS
73	Fast and Robust Recursive Algorithms for Separable Nonnegative Matrix Factorization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2014, 36, 698-714.	9.7	215
74	Two algorithms for orthogonal nonnegative matrix factorization with application to clustering. Neurocomputing, 2014, 141, 15-25.	3.5	111
75	A Signal Processing Perspective on Hyperspectral Unmixing: Insights from Remote Sensing. IEEE Signal Processing Magazine, 2014, 31, 67-81.	4.6	362
76	Successive Nonnegative Projection Algorithm for Robust Nonnegative Blind Source Separation. SIAM Journal on Imaging Sciences, 2014, 7, 1420-1450.	1.3	71
77	Enhancing pure-pixel identification performance via preconditioning. , 2014, , .		0
78	Sparse nonnegative matrix underapproximation and its application to hyperspectral image analysis. Linear Algebra and Its Applications, 2013, 438, 3991-4007.	0.4	42
79	Robustness Analysis of Hottopixx, a Linear Programming Model for Factoring Nonnegative Matrices. SIAM Journal on Matrix Analysis and Applications, 2013, 34, 1189-1212.	0.7	29
80	On the geometric interpretation of the nonnegative rank. Linear Algebra and Its Applications, 2012, 437, 2685-2712.	0.4	53
81	Priors in sparse recursive decompositions of hyperspectral images. , 2012, , .		3
82	Accelerated Multiplicative Updates and Hierarchical ALS Algorithms for Nonnegative Matrix Factorization. Neural Computation, 2012, 24, 1085-1105.	1.3	220
83	A multilevel approach for nonnegative matrix factorization. Journal of Computational and Applied Mathematics, 2012, 236, 1708-1723.	1.1	20
84	Sparse nonnegative matrix underapproximation and its application to hyperspectral image analysis. , 2011, , .		4
85	Low-Rank Matrix Approximation with Weights or Missing Data Is NP-Hard. SIAM Journal on Matrix Analysis and Applications, 2011, 32, 1149-1165.	0.7	147
86	Dimensionality reduction, classification, and spectral mixture analysis using nonnegative underapproximation. , 2010, , .		7
87	Using underapproximations for sparse nonnegative matrix factorization. Pattern Recognition, 2010, 43, 1676-1687.	5.1	88
88	Document classification using nonnegative matrix factorization and underapproximation. , 2009, , .		16
89	Characterization of the dissipative mappings and their application to perturbations of dissipative Hamiltonian systems. Numerical Linear Algebra With Applications, 0, , e2402.	0.9	0