

Ivan Oseledets

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8172641/publications.pdf>

Version: 2024-02-01

121
papers

5,022
citations

201674

27
h-index

95266

68
g-index

123
all docs

123
docs citations

123
times ranked

2312
citing authors

#	ARTICLE	IF	CITATIONS
1	Estimation of the Canopy Height Model From Multispectral Satellite Imagery With Convolutional Neural Networks. IEEE Access, 2022, 10, 34116-34132.	4.2	16
2	XtremeAugment: Getting More From Your Data Through Combination of Image Collection and Image Augmentation. IEEE Access, 2022, 10, 24010-24028.	4.2	13
3	Augmentation-Based Methodology for Enhancement of Trees Map Detailization on a Large Scale. Remote Sensing, 2022, 14, 2281.	4.0	12
4	Successes and problems of machine learning. , 2022, , .		1
5	QTT-isogeometric solver in two dimensions. Journal of Computational Physics, 2021, 424, 109835.	3.8	0
6	A New Multi-objective Approach to Optimize Irrigation Using a Crop Simulation Model and Weather History. Lecture Notes in Computer Science, 2021, , 75-88.	1.3	2
7	Randomized Algorithms for Computation of Tucker Decomposition and Higher Order SVD (HOSVD). IEEE Access, 2021, 9, 28684-28706.	4.2	36
8	Neural-Based Hierarchical Approach for Detailed Dominant Forest Species Classification by Multispectral Satellite Imagery. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 1810-1820.	4.9	17
9	Optimization of Water Quality Monitoring Networks Using Metaheuristic Approaches: Moscow Region Use Case. Water (Switzerland), 2021, 13, 888.	2.7	6
10	Dynamic Modeling of User Preferences for Stable Recommendations. , 2021, , .		3
11	MixChannel: Advanced Augmentation for Multispectral Satellite Images. Remote Sensing, 2021, 13, 2181.	4.0	16
12	Generation of the NIR Spectral Band for Satellite Images with Convolutional Neural Networks. Sensors, 2021, 21, 5646.	3.8	11
13	Solution of the Fokker-Planck Equation by Cross Approximation Method in the Tensor Train Format. Frontiers in Artificial Intelligence, 2021, 4, 668215.	3.4	8
14	Latency Estimation Tool and Investigation of Neural Networks Inference on Mobile GPU. Computers, 2021, 10, 104.	3.3	7
15	Randomized algorithms for fast computation of low rank tensor ring model. Machine Learning: Science and Technology, 2021, 2, 011001.	5.0	9
16	Tree Species Mapping on Sentinel-2 Satellite Imagery with Weakly Supervised Classification and Object-Wise Sampling. Forests, 2021, 12, 1413.	2.1	17
17	Cross Tensor Approximation Methods for Compression and Dimensionality Reduction. IEEE Access, 2021, 9, 150809-150838.	4.2	9
18	Object-Based Augmentation for Building Semantic Segmentation: Ventura and Santa Rosa Case Study. , 2021, , .		12

#	ARTICLE	IF	CITATIONS
19	Regulation-based probabilistic substance quality index and automated geo-spatial modeling for water quality assessment. <i>Scientific Reports</i> , 2021, 11, 23822.	3.3	1
20	Black-box learning of multigrid parameters. <i>Journal of Computational and Applied Mathematics</i> , 2020, 368, 112524.	2.0	15
21	Adaptive algorithm for quantum circuit simulation. <i>Physical Review A</i> , 2020, 101, .	2.5	21
22	Sensitivity Analysis of Soil Parameters in Crop Model Supported with High-Throughput Computing. <i>Lecture Notes in Computer Science</i> , 2020, , 731-741.	1.3	4
23	Stable Low-Rank Tensor Decomposition for Compression of Convolutional Neural Network. <i>Lecture Notes in Computer Science</i> , 2020, , 522-539.	1.3	36
24	Tensor Completion via Gaussian Process-Based Initialization. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, A3812-A3824.	2.8	2
25	TT-TSDF: Memory-Efficient TSDF with Low-Rank Tensor Train Decomposition. , 2020, , .		1
26	Tensor Train Spectral Method for Learning of Hidden Markov Models (HMM). <i>Computational Methods in Applied Mathematics</i> , 2019, 19, 93-99.	0.8	2
27	Approximate Solution of Linear Systems with Laplace-like Operators via Cross Approximation in the Frequency Domain. <i>Computational Methods in Applied Mathematics</i> , 2019, 19, 137-145.	0.8	2
28	IceVisionSet: lossless video dataset collected on Russian winter roads with traffic sign annotations. , 2019, , .		10
29	Low-rank Riemannian eigensolver for high-dimensional Hamiltonians. <i>Journal of Computational Physics</i> , 2019, 396, 718-737.	3.8	6
30	Predicting dynamical system evolution with residual neural networks. <i>Keldysh Institute Preprints</i> , 2019, , 1-26.	0.2	0
31	Robust topology optimization using a posteriori error estimator for the finite element method. <i>Structural and Multidisciplinary Optimization</i> , 2018, 58, 1619-1632.	3.5	6
32	Jacobi-Davidson Method on Low-Rank Matrix Manifolds. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, A1149-A1170.	2.8	8
33	Convergence analysis of projected fixed-point iteration on a low-rank matrix manifold. <i>Numerical Linear Algebra With Applications</i> , 2018, 25, e2140.	1.6	5
34	Desingularization of Bounded-Rank Matrix Sets. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2018, 39, 451-471.	1.4	6
35	Rectangular maximum-volume submatrices and their applications. <i>Linear Algebra and Its Applications</i> , 2018, 538, 187-211.	0.9	26
36	Thermal dissociation and H/D exchange of streptavidin tetramers at atmospheric pressure. <i>International Journal of Mass Spectrometry</i> , 2018, 427, 100-106.	1.5	6

#	ARTICLE	IF	CITATIONS
37	Evolutionary Structural Optimization Algorithm Based on FFT-JVIE Solver for Inverse Design of Wave Devices. , 2018, , .		3
38	Employing fingerprinting of medicinal plants by means of LC-MS and machine learning for species identification task. Scientific Reports, 2018, 8, 17053.	3.3	17
39	AA-ICP: Iterative Closest Point with Anderson Acceleration. , 2018, , .		58
40	Application of machine learning to viscoplastic flow modeling. Physics of Fluids, 2018, 30, .	4.0	14
41	“Compress and Eliminate” Solver for Symmetric Positive Definite Sparse Matrices. SIAM Journal of Scientific Computing, 2018, 40, A1742-A1762.	2.8	6
42	How to optimize preconditioners for the conjugate gradient method: a stochastic approach. Keldysh Institute Preprints, 2018, , 1-26.	0.2	0
43	Matrix Factorization for Collaborative Recommendations. , 2018, , 35-78.		0
44	Tensor methods and recommender systems. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2017, 7, e1201.	6.8	61
45	Fast topological-shape optimization with boundary elements in two dimensions. Russian Journal of Numerical Analysis and Mathematical Modelling, 2017, 32, .	0.6	1
46	Tensor Networks for Dimensionality Reduction and Large-scale Optimization: Part 2 Applications and Future Perspectives. Foundations and Trends in Machine Learning, 2017, 9, 249-429.	69.0	128
47	Chapter 5: Model Reduction for High-Dimensional Parametric Problems by Tensor Techniques. , 2017, , 227-257.		0
48	Scalable topology optimization with the kernel-independent fast multipole method. Engineering Analysis With Boundary Elements, 2017, 83, 123-132.	3.7	3
49	Natural Erosion of Sandstone as Shape Optimisation. Scientific Reports, 2017, 7, 17301.	3.3	13
50	QTT-finite-element approximation for multiscale problems I: model problems in one dimension. Advances in Computational Mathematics, 2017, 43, 411-442.	1.6	16
51	Towards solving lippmann-schwinger integral equation in 2D with polylogarithmic complexity with quantized tensor train decomposition. , 2017, , .		0
52	Vico-Greengard-Ferrando quadratures in the tensor solver for integral equations. , 2017, , .		0
53	Time- and memory-efficient representation of complex mesoscale potentials. Journal of Computational Physics, 2017, 343, 110-114.	3.8	2
54	Riemannian Optimization for Skip-Gram Negative Sampling. , 2017, , .		7

#	ARTICLE	IF	CITATIONS
55	Efficient Rectangular Maximal-Volume Algorithm for Rating Elicitation in Collaborative Filtering. , 2016, , .		4
56	Calculating vibrational spectra of molecules using tensor train decomposition. Journal of Chemical Physics, 2016, 145, 124101.	3.0	49
57	Preconditioners for hierarchical matrices based on their extended sparse form. Russian Journal of Numerical Analysis and Mathematical Modelling, 2016, 31, .	0.6	6
58	Tensor Networks for Dimensionality Reduction and Large-scale Optimization: Part 1 Low-Rank Tensor Decompositions. Foundations and Trends in Machine Learning, 2016, 9, 249-429.	69.0	255
59	Unifying time evolution and optimization with matrix product states. Physical Review B, 2016, 94, .	3.2	387
60	A new approach for sparse Bayesian channel estimation in SCMA uplink systems. , 2016, , .		8
61	Fifty Shades of Ratings. , 2016, , .		13
62	Machine learning for LCâ€“MS medicinal plants identification. Chemometrics and Intelligent Laboratory Systems, 2016, 156, 174-180.	3.5	18
63	Iterative representing set selection for nested cross approximation. Numerical Linear Algebra With Applications, 2016, 23, 230-248.	1.6	10
64	Grid-based electronic structure calculations: The tensor decomposition approach. Journal of Computational Physics, 2016, 312, 19-30.	3.8	16
65	A low-rank approach to the computation of path integrals. Journal of Computational Physics, 2016, 305, 557-574.	3.8	6
66	BLACK-BOX SOLVER FOR ONE-DIMENSIONAL MULTISCALE MODELLING USING THE QTT FORMAT. , 2016, , .		2
67	Fitting high-dimensional potential energy surface using active subspace and tensor train (AS+TT) method. Journal of Chemical Physics, 2015, 143, 174107.	3.0	8
68	Fast lowâ€“rank approximations of multidimensional integrals in ionâ€“atomic collisions modelling. Numerical Linear Algebra With Applications, 2015, 22, 1147-1160.	1.6	5
69	From Low-Rank Approximation to a Rational Krylov Subspace Method for the Lyapunov Equation. SIAM Journal on Matrix Analysis and Applications, 2015, 36, 1622-1637.	1.4	2
70	Fast Multidimensional Convolution in Low-Rank Tensor Formats via Cross Approximation. SIAM Journal of Scientific Computing, 2015, 37, A565-A582.	2.8	32
71	Enabling High-Dimensional Hierarchical Uncertainty Quantification by ANOVA and Tensor-Train Decomposition. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 63-76.	2.7	75
72	Time Integration of Tensor Trains. SIAM Journal on Numerical Analysis, 2015, 53, 917-941.	2.3	117

#	ARTICLE	IF	CITATIONS
73	Rectangular submatrices of maximum volume and their computation. Doklady Mathematics, 2015, 91, 267-268.	0.6	2
74	Fast Toeplitz linear system inversion for solving two-dimensional acoustic inverse problem. Journal of Inverse and Ill-Posed Problems, 2015, 23, 687-700.	1.0	28
75	Low-rank retractions: a survey and new results. Computational Optimization and Applications, 2015, 62, 5-29.	1.6	31
76	Engineering optimization with the fast boundary element method. WIT Transactions on Modelling and Simulation, 2015, , .	0.0	2
77	A projector-splitting integrator for dynamical low-rank approximation. BIT Numerical Mathematics, 2014, 54, 171-188.	2.0	94
78	A computationally efficient technique for the solution of multi-dimensional PBMs of granulation via tensor decomposition. Computers and Chemical Engineering, 2014, 61, 234-244.	3.8	24
79	Computation of extreme eigenvalues in higher dimensions using block tensor train format. Computer Physics Communications, 2014, 185, 1207-1216.	7.5	66
80	The DEPOSIT computer code based on the low rank approximations. Computer Physics Communications, 2014, 185, 2801-2802.	7.5	4
81	Iterative across-time solution of linear differential equations: Krylov subspace versus waveform relaxation. Computers and Mathematics With Applications, 2014, 67, 2088-2098.	2.7	6
82	Tensor-based multiuser detection and intra-cell interference mitigation in LTE PUCCH. , 2013, , .		5
83	Constructive Representation of Functions in Low-Rank Tensor Formats. Constructive Approximation, 2013, 37, 1-18.	3.0	72
84	Fast Solution of Parabolic Problems in the Tensor Train/Quantized Tensor Train Format with Initial Application to the Fokker-Planck Equation. SIAM Journal of Scientific Computing, 2012, 34, A3016-A3038.	2.8	75
85	Solution of Linear Systems and Matrix Inversion in the TT-Format. SIAM Journal of Scientific Computing, 2012, 34, A2718-A2739.	2.8	111
86	Low-Rank Tensor Structure of Solutions to Elliptic Problems with Jumping Coefficients. Journal of Computational Mathematics, 2012, 30, 14-23.	0.4	2
87	Wedderburn Rank Reduction and Krylov Subspace Method for Tensor Approximation. Part 1: Tucker Case. SIAM Journal of Scientific Computing, 2012, 34, A1-A27.	2.8	14
88	Representation of quasiseparable matrices using excluded sums and equivalent charges. Linear Algebra and Its Applications, 2012, 436, 699-708.	0.9	2
89	A reciprocal preconditioner for structured matrices arising from elliptic problems with jumping coefficients. Linear Algebra and Its Applications, 2012, 436, 2980-3007.	0.9	7
90	Tensor train decomposition for low-parametric representation of high-dimensional arrays and functions: Review of recent results. , 2011, , .		2

#	ARTICLE	IF	CITATIONS
91	Tensor-Train Decomposition. SIAM Journal of Scientific Computing, 2011, 33, 2295-2317.	2.8	1,401
92	QTT approximation of elliptic solution operators in higher dimensions. Russian Journal of Numerical Analysis and Mathematical Modelling, 2011, 26, .	0.6	32
93	Tensor-Train Ranks for Matrices and Their Inverses. Computational Methods in Applied Mathematics, 2011, 11, 394-403.	0.8	19
94	DMRG Approach to Fast Linear Algebra in the TT-Format. Computational Methods in Applied Mathematics, 2011, 11, 382-393.	0.8	39
95	Improved n-Term Karatsuba-Like Formulas in GF(2). IEEE Transactions on Computers, 2011, 60, 1212-1216.	3.4	9
96	Fast adaptive interpolation of multi-dimensional arrays in tensor train format. , 2011, , .		34
97	Algebraic Wavelet Transform via Quantics Tensor Train Decomposition. SIAM Journal of Scientific Computing, 2011, 33, 1315-1328.	2.8	13
98	Quantics-TT Collocation Approximation of Parameter-Dependent and Stochastic Elliptic PDEs. Computational Methods in Applied Mathematics, 2010, 10, 376-394.	0.8	46
99	Approximation of $2^{dimes} \times 2^d$ Matrices Using Tensor Decomposition. SIAM Journal on Matrix Analysis and Applications, 2010, 31, 2130-2145.	1.4	150
100	Cross approximation in tensor electron density computations. Numerical Linear Algebra With Applications, 2010, 17, 935-952.	1.6	21
101	TT-cross approximation for multidimensional arrays. Linear Algebra and Its Applications, 2010, 432, 70-88.	0.9	324
102	Fast orthogonalization to the kernel of the discrete gradient operator with application to Stokes problem. Linear Algebra and Its Applications, 2010, 432, 1492-1500.	0.9	3
103	Linear algebra for tensor problems. Computing (Vienna/New York), 2009, 85, 169-188.	4.8	38
104	Matrix inversion cases with size-independent tensor rank estimates. Linear Algebra and Its Applications, 2009, 431, 558-570.	0.9	2
105	Fast Simultaneous Orthogonal Reduction to Triangular Matrices. SIAM Journal on Matrix Analysis and Applications, 2009, 31, 316-330.	1.4	9
106	Recursive decomposition of multidimensional tensors. Doklady Mathematics, 2009, 80, 460-462.	0.6	14
107	A new tensor decomposition. Doklady Mathematics, 2009, 80, 495-496.	0.6	27
108	Approximation of matrices with logarithmic number of parameters. Doklady Mathematics, 2009, 80, 653-654.	0.6	30

#	ARTICLE	IF	CITATIONS
109	The tensor structure of the inverse of a banded Toeplitz matrix. Doklady Mathematics, 2009, 80, 669-670.	0.6	3
110	Integration of oscillating functions in a quasi-three-dimensional electrodynamic problem. Computational Mathematics and Mathematical Physics, 2009, 49, 292-303.	0.8	1
111	Breaking the Curse of Dimensionality, Or How to Use SVD in Many Dimensions. SIAM Journal of Scientific Computing, 2009, 31, 3744-3759.	2.8	312
112	The integral operator with logarithmic kernel has only one positive eigenvalue. Linear Algebra and Its Applications, 2008, 428, 1560-1564.	0.9	2
113	Optimal Karatsuba-like formulae for certain bilinear forms in GF(2). Linear Algebra and Its Applications, 2008, 429, 2052-2066.	0.9	11
114	Tucker Dimensionality Reduction of Three-Dimensional Arrays in Linear Time. SIAM Journal on Matrix Analysis and Applications, 2008, 30, 939-956.	1.4	146
115	Lower bounds for separable approximations of the Hilbert kernel. Sbornik Mathematics, 2007, 198, 425-432.	0.6	11
116	Superfast Inversion of Two-Level Toeplitz Matrices Using Newton Iteration and Tensor-Displacement Structure. , 2007, , 229-240.		11
117	A unifying approach to the construction of circulant preconditioners. Linear Algebra and Its Applications, 2006, 418, 435-449.	0.9	17
118	Approximation of Toeplitz matrices by sums of circulants and small-rank matrices. Doklady Mathematics, 2006, 73, 100-101.	0.6	6
119	Minimization methods for approximating tensors and their comparison. Computational Mathematics and Mathematical Physics, 2006, 46, 1641-1650.	0.8	15
120	Tensor properties of multilevel Toeplitz and related matrices. Linear Algebra and Its Applications, 2006, 412, 1-21.	0.9	33
121	Use of Divided Differences and B Splines for Constructing Fast Discrete Transforms of Wavelet Type on Nonuniform Grids. Mathematical Notes, 2005, 77, 686-694.	0.4	2