Naoki Saito

List of Publications by Year
in descending order

57 papers	1,081 citations	758635 12 h-index	500791 28 g-index
57 all docs	57 docs citations	57 times ranked	609 citing authors

#	Article	IF	Citations
1	Local discriminant bases and their applications. Journal of Mathematical Imaging and Vision, 1995, 5, 337-358.	0.8	202
2	Multiresolution representations using the autocorrelation functions of compactly supported wavelets. IEEE Transactions on Signal Processing, 1993, 41, 3584-3590.	3.2	124
3	Simultaneous Noise Suppression and Signal Compression Using a Library of Orthonormal Bases and the Minimum Description Length Criterion. Wavelet Analysis and Its Applications, 1994, , 299-324.	0.2	90
4	<title>Local discriminant bases</title>. , 1994, , .		76
5	Simultaneous noise suppression and signal compression using a library of orthonormal bases and the minimum-description-length criterion. , 1994, , .		70
6	Discriminant feature extraction using empirical probability density estimation and a local basis library. Pattern Recognition, 2002, 35, 2841-2852.	5.1	69
7	LOCAL FEATURE EXTRACTION AND ITS APPLICATIONS USING A LIBRARY OF BASES. , 2000, , 269-451.		64
8	A method to detect and characterize ellipses using the Hough transform. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1999, 21, 652-657.	9.7	62
9	Data analysis and representation on a general domain using eigenfunctions of Laplacian. Applied and Computational Harmonic Analysis, 2008, 25, 68-97.	1.1	52
10	Extraction of geological information from acoustic well‐logging waveforms using time‐frequency wavelets. Geophysics, 1997, 62, 1921-1930.	1.4	27
11	Improvement of DCT-Based Compression Algorithms Using Poisson's Equation. IEEE Transactions on Image Processing, 2006, 15, 3672-3689.	6.0	22
12	Mysteries around the graph Laplacian eigenvalue 4. Linear Algebra and Its Applications, 2013, 438, 3231-3246.	0.4	21
13	The polyharmonic local sine transform: A new tool for local image analysis and synthesis without edge effect. Applied and Computational Harmonic Analysis, 2006, 20, 41-73.	1.1	20
14	Hierarchical graph Laplacian eigen transforms. JSIAM Letters, 2014, 6, 21-24.	0.3	19
15	Constructions of periodic wavelet frames using extension principles. Applied and Computational Harmonic Analysis, 2009, 27, 12-23.	1.1	12
16	Sparsity vs. statistical independence from a best-basis viewpoint. , 2000, , .		11
17	The generalized Haar-Walsh transform. , 2014, , .		10
18	Image approximation and modeling via least statistically dependent bases. Pattern Recognition, 2001, 34, 1765-1784.	5.1	9

#	ARTICLE	IF	CITATIONS
19	Analysis of Neuronal Dendrite Patterns Using Eigenvalues of Graph Laplacians. JSIAM Letters, 2009, 1, 13-16.	0.3	9
20	Efficient Approximation and Denoising of Graph Signals Using the Multiscale Basis Dictionaries. IEEE Transactions on Signal and Information Processing Over Networks, 2017, 3, 607-616.	1.6	8
21	Natural Graph Wavelet Packet Dictionaries. Journal of Fourier Analysis and Applications, 2021, 27, 1.	0.5	8
22	Adaptive synchrosqueezing based on a quilted short-time Fourier transform. , 2017, , .		7
23	Generalized E-filter and its application to edge detection. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1990, 12, 814-817.	9.7	6
24	<title>Least statistically dependent basis and its application to image modeling</title>. , 1998, , .		6
25	ON AN EFFICIENT SPARSE REPRESENTATION OF OBJECTS OF GENERAL SHAPE VIA CONTINUOUS EXTENSION AND WAVELET APPROXIMATION. International Journal of Wavelets, Multiresolution and Information Processing, 2010, 08, 253-269.	0.9	6
26	Applied and computational harmonic analysis on graphs and networks. Proceedings of SPIE, 2015, , .	0.8	6
27	Harmonic Wavelet Transform and Image Approximation. Journal of Mathematical Imaging and Vision, 2010, 38, 14-34.	0.8	5
28	The extended generalized Haar-Walsh transform and applications. , 2019, , .		5
29	PHLST with adaptive tiling and its application to antarctic remote sensing image approximation. Inverse Problems and Imaging, 2014, 8, 321-337.	0.6	5
30	A new local sine transform without overlaps: a combination of computational harmonic analysis and PDE. , 2003, , .		4
31	Sparsity vs. Statistical Independence in Adaptive Signal Representations: A Case Study of the Spike Process. Studies in Computational Mathematics, 2003, , 225-257.	0.2	4
32	Using edge information in time–frequency representations for chirp parameter estimation. Applied and Computational Harmonic Analysis, 2005, 18, 186-197.	1.1	4
33	How Can We Naturally Order and Organize Graph Laplacian Eigenvectors?. , 2018, , .		4
34	Metrics of graph Laplacian eigenvectors. , 2019, , .		4
35	Automated discrimination of shapes in high dimensions. , 2007, , .		3
36	PHLST5: A Practical and Improved Version of Polyharmonic Local Sine Transform. Journal of Mathematical Imaging and Vision, 2008, 30, 23-41.	0.8	3

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37	Ring-like structures of frequency domains of wavelets. Applied and Computational Harmonic Analysis, 2010, 29, 18-29.	1.1	3
38	Learning sparsity and structure of matrices with multiscale graph basis dictionaries. , 2016, , .		3
39	Improving Sparse Representation-Based Classification Using Local Principal Component Analysis. Studies in Computational Intelligence, 2018, , 165-206.	0.7	3
40	eGHWT: The Extended Generalized Haar–Walsh Transform. Journal of Mathematical Imaging and Vision, 2022, 64, 261-283.	0.8	3
41	Classification of Objects in Synthetic Aperture Sonar Images. , 2007, , .		2
42	Earth Mover's Distance-Based Local Discriminant Basis. , 2013, , 275-294.		2
43	Tree simplification and the 'plateaux' phenomenon of graph Laplacian eigenvalues. Linear Algebra and Its Applications, 2015, 481, 263-279.	0.4	2
44	The n -dimensional polyharmonic local sine transform on rectangular domains. , 2005, , .		1
45	The polynomial Fourier transform with minimum mean square error for noisy data. Journal of Computational and Applied Mathematics, 2010, 234, 1586-1610.	1.1	1
46	Existence theorem and minimal cardinality of UEP framelets and MEP bi-framelets. Applied and Computational Harmonic Analysis, 2013, 34, 297-307.	1.1	1
47	On Rayleigh-type formulas for a non-local boundary value problem associated with an integral operator commuting with the Laplacian. Applied and Computational Harmonic Analysis, 2018, 45, 59-83.	1.1	1
48	Signal Ensemble Classification Using Low-Dimensional Embeddings and Earth Mover's Distance. , 2011, , 227-256.		1
49	Underwater object classification using scattering transform of sonar signals. , 2017, , .		1
50	Wavelet despiking of fractographs. , 2000, 4119, 853.		0
51	<title>Continuous boundary local Fourier transform</title>. , 2001, , .		0
52	PHLFT5: a practical and improved version of polyharmonic local Fourier transform. , 2005, , .		0
53	High-dimensional data compression via PHLCT. , 2007, , .		0
54	Signal classification by matching node connectivities. , 2009, , .		0

#	Article	IF	Citations
55	AN APPROXIMATION FORMULA IN HILBERT SPACE. , 2008, , .		0
56	<title>Local Fourier dictionary: a natural tool for data analysis</title>. , 1999, , .		0
57	WaveletsExt.jl: Extending the boundaries of wavelets in Julia. Journal of Open Source Software, 2022, 7, 3937.	2.0	0