

Laurent Najman

List of Publications by Year in descending order

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158
papers

6,070
citations

186265

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76900

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g-index

169
all docs

169
docs citations

169
times ranked

5267
citing authors

#	ARTICLE	IF	CITATIONS
1	Triplet-Watershed for Hyperspectral Image Classification. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-14.	6.3	6
2	Some Equivalence Relation between Persistent Homology and Morphological Dynamics. Journal of Mathematical Imaging and Vision, 2022, 64, 807-824.	1.3	3
3	Rethinking interactive image segmentation: Feature space annotation. Pattern Recognition, 2022, 131, 108882.	8.1	4
4	Myocardial Perfusion Simulation for Coronary Artery Disease: A Coupled Patient-Specific Multiscale Model. Annals of Biomedical Engineering, 2021, 49, 1432-1447.	2.5	25
5	Iterated Watersheds, A Connected Variation of K-Means for Clustering GIS Data. IEEE Transactions on Emerging Topics in Computing, 2021, 9, 626-636.	4.6	5
6	A tutorial on applications of power watershed optimization to image processing. European Physical Journal: Special Topics, 2021, 230, 2337-2361.	2.6	3
7	Graph-Based Supervoxel Computation from Iterative Spanning Forest. Lecture Notes in Computer Science, 2021, , 404-415.	1.3	3
8	Object Detection With Component-Graphs in Multi-Band Images: Application to Source Detection in Astronomical Images. IEEE Access, 2021, 9, 156482-156491.	4.2	2
9	Power Spectral Clustering. Journal of Mathematical Imaging and Vision, 2020, 62, 1195-1213.	1.3	12
10	CGO: Multiband Astronomical Source Detection With Component-Graphs. , 2020, ,		2
11	Equivalence between Digital Well-Composedness and Well-Composedness in the Sense of Alexandrov on n-D Cubical Grids. Journal of Mathematical Imaging and Vision, 2020, 62, 1285-1333.	1.3	2
12	Topological Properties of the First Non-Local Digitally Well-Composed Interpolation on n-D Cubical Grids. Journal of Mathematical Imaging and Vision, 2020, 62, 1256-1284.	1.3	0
13	Shaping for PET image analysis. Pattern Recognition Letters, 2020, 131, 307-313.	4.2	7
14	Characterization of Graph-Based Hierarchical Watersheds: Theory and Algorithms. Journal of Mathematical Imaging and Vision, 2020, 62, 627-658.	1.3	3
15	A 4D Counter-Example Showing that DWCness Does Not Imply CWCness in nD. Lecture Notes in Computer Science, 2020, , 73-87.	1.3	2
16	Generation of Patient-Specific Cardiac Vascular Networks: A Hybrid Image-Based and Synthetic Geometric Model. IEEE Transactions on Biomedical Engineering, 2019, 66, 946-955.	4.2	24
17	Revisiting the Isoperimetric Graph Partitioning Problem. IEEE Access, 2019, 7, 50636-50649.	4.2	2
18	Watersheding Hierarchies. Lecture Notes in Computer Science, 2019, , 124-136.	1.3	0

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19	Higra: Hierarchical Graph Analysis. <i>SoftwareX</i> , 2019, 10, 100335.	2.6	31
20	Properties of combinations of hierarchical watersheds. <i>Pattern Recognition Letters</i> , 2019, 128, 513-520.	4.2	3
21	Removing non-significant regions in hierarchical clustering and segmentation. <i>Pattern Recognition Letters</i> , 2019, 128, 433-439.	4.2	11
22	Some Theoretical Links Between Shortest Path Filters and Minimum Spanning Tree Filters. <i>Journal of Mathematical Imaging and Vision</i> , 2019, 61, 745-762.	1.3	3
23	Watersheds for Semi-Supervised Classification. <i>IEEE Signal Processing Letters</i> , 2019, 26, 720-724.	3.6	5
24	How to Make n-D Plain Maps Defined on Discrete Surfaces Alexandrov-Well-Composed in a Self-Dual Way. <i>Journal of Mathematical Imaging and Vision</i> , 2019, 61, 849-873.	1.3	4
25	Exploring Hierarchy Simplification for Non-Significant Region Removal. , 2019, , .		0
26	Shape-Based Analysis on Component-Graphs for Multivalued Image Processing. <i>Mathematical Morphology - Theory and Applications</i> , 2019, 3, 45-70.	0.7	2
27	Recognizing Hierarchical Watersheds. <i>Lecture Notes in Computer Science</i> , 2019, , 300-313.	1.3	3
28	An Equivalence Relation Between Morphological Dynamics and Persistent Homology in 1D. <i>Lecture Notes in Computer Science</i> , 2019, , 57-68.	1.3	5
29	On the Probabilities of Hierarchical Watersheds. <i>Lecture Notes in Computer Science</i> , 2019, , 137-149.	1.3	0
30	Some Properties of Interpolations Using Mathematical Morphology. <i>IEEE Transactions on Image Processing</i> , 2018, 27, 2038-2048.	9.8	7
31	Hierarchical Segmentations with Graphs: Quasi-flat Zones, Minimum Spanning Trees, and Saliency Maps. <i>Journal of Mathematical Imaging and Vision</i> , 2018, 60, 479-502.	1.3	46
32	A Tutorial on Well-Composedness. <i>Journal of Mathematical Imaging and Vision</i> , 2018, 60, 443-478.	1.3	28
33	Curvilinear Structure Analysis by Ranking the Orientation Responses of Path Operators. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2018, 40, 304-317.	13.9	46
34	Extending K-Means to Preserve Spatial Connectivity. , 2018, , .		5
35	Hierarchical Segmentation Using Tree-Based Shape Spaces. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2017, 39, 457-469.	13.9	44
36	Discriminative Subtree Selection for NBI Endoscopic Image Labeling. <i>Lecture Notes in Computer Science</i> , 2017, , 610-624.	1.3	1

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37	Tree-Wise Discriminative Subtree Selection for Texture Image Labeling. IEEE Access, 2017, 5, 13617-13634.	4.2	3
38	Automated 3D lymphoma lesion segmentation from PET/CT characteristics. , 2017, , .		22
39	Scale-space for empty catheter segmentation in PCI fluoroscopic images. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 1179-1188.	2.8	1
40	Periodic area-of-motion characterization for bio-medical applications. , 2017, , .		0
41	Extending the Power Watershed Framework Thanks to γ -Convergence. SIAM Journal on Imaging Sciences, 2017, 10, 2275-2292.	2.2	13
42	Hierarchizing graph-based image segmentation algorithms relying on region dissimilarity. Mathematical Morphology - Theory and Applications, 2017, 2, .	0.7	7
43	Power spectral clustering on hyperspectral data. , 2017, , .		3
44	Evaluation of Combinations of Watershed Hierarchies. Lecture Notes in Computer Science, 2017, , 133-145.	1.3	6
45	Power Tree Filter: A Theoretical Framework Linking Shortest Path Filters and Minimum Spanning Tree Filters. Lecture Notes in Computer Science, 2017, , 199-210.	1.3	3
46	An Introduction to Gamma-Convergence for Spectral Clustering. Lecture Notes in Computer Science, 2017, , 185-196.	1.3	5
47	Well-Composedness in Alexandrov Spaces Implies Digital Well-Composedness in \mathbb{Z}^n . Lecture Notes in Computer Science, 2017, , 225-237.	1.3	5
48	Watersheds on Hypergraphs for Data Clustering. Lecture Notes in Computer Science, 2017, , 211-221.	1.3	0
49	VOIDD: Automatic Vessel-of-Intervention Dynamic Detection in PCI Procedures. Lecture Notes in Computer Science, 2017, , 47-56.	1.3	0
50	Automating the measurement of physiological parameters: A case study in the image analysis of cilia motion. , 2016, , .		2
51	Hierarchical image simplification and segmentation based on Mumford-Shah-salient level line selection. Pattern Recognition Letters, 2016, 83, 278-286.	4.2	21
52	Connected Filtering on Tree-Based Shape-Spaces. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2016, 38, 1126-1140.	13.9	55
53	Improved Estimation of Cardiac Function Parameters Using a Combination of Independent Automated Segmentation Results in Cardiovascular Magnetic Resonance Imaging. PLoS ONE, 2015, 10, e0135715.	2.5	11
54	A Comparison of Some Morphological Filters for Improving OCR Performance. Lecture Notes in Computer Science, 2015, , 134-145.	1.3	3

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55	How to make nD images well-composed without interpolation. , 2015, , .		11
56	A regionalized automated measurement of ciliary beating frequency. , 2015, , .		5
57	Multicriteria 3D PET image segmentation. , 2015, , .		4
58	Hierarchies and shape-space for pet image segmentation. , 2015, , .		12
59	Ranking Orientation Responses of Path Operators: Motivations, Choices and Algorithmics. Lecture Notes in Computer Science, 2015, , 633-644.	1.3	4
60	Shape-Based Analysis on Component-Graphs for Multivalued Image Processing. Lecture Notes in Computer Science, 2015, , 446-457.	1.3	4
61	When Convex Analysis Meets Mathematical Morphology on Graphs. Lecture Notes in Computer Science, 2015, , 473-484.	1.3	1
62	How to Make nD Functions Digitally Well-Composed in a Self-dual Way. Lecture Notes in Computer Science, 2015, , 561-572.	1.3	17
63	Efficient Computation of Attributes and Saliency Maps on Tree-Based Image Representations. Lecture Notes in Computer Science, 2015, , 693-704.	1.3	15
64	Hierarchical Image Segmentation Relying on a Likelihood Ratio Test. Lecture Notes in Computer Science, 2015, , 25-35.	1.3	3
65	Efficient Polynomial Implementation of Several Multithresholding Methods for Gray-Level Image Segmentation. Lecture Notes in Computer Science, 2015, , 350-357.	1.3	0
66	Tubular Structure Filtering by Ranking Orientation Responses of Path Operators. Lecture Notes in Computer Science, 2014, , 203-218.	1.3	14
67	Tree-Based Morse Regions: A Topological Approach to Local Feature Detection. IEEE Transactions on Image Processing, 2014, 23, 5612-5625.	9.8	41
68	Learning-based automatic detection of severe coronary stenoses in CT angiographies. Proceedings of SPIE, 2014, , .	0.8	0
69	Dimensional operators for mathematical morphology on simplicial complexes. Pattern Recognition Letters, 2014, 47, 111-119.	4.2	6
70	Collapses and Watersheds in Pseudomanifolds of Arbitrary Dimension. Journal of Mathematical Imaging and Vision, 2014, 50, 261-285.	1.3	17
71	Special issue on advances in mathematical morphology. Pattern Recognition Letters, 2014, 47, 1-2.	4.2	1
72	A graph-based mathematical morphology reader. Pattern Recognition Letters, 2014, 47, 3-17.	4.2	42

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73	A mutual reference shape based on information theory. , 2014, , .		4
74	Morphological floodings and optimal cuts in hierarchies. , 2014, , .		4
75	Meaningful disjoint level lines selection. , 2014, , .		2
76	On Making nD Images Well-Composed by a Self-dual Local Interpolation. Lecture Notes in Computer Science, 2014, , 320-331.	1.3	7
77	Practical Genericity: Writing Image Processing Algorithms Both Reusable and Efficient. Lecture Notes in Computer Science, 2014, , 70-79.	1.3	2
78	Introduction to Mathematical Morphology. , 2013, , 1-33.		5
79	A Quasi-linear Algorithm to Compute the Tree of Shapes of nD Images. Lecture Notes in Computer Science, 2013, , 98-110.	1.3	63
80	Morphological filtering on graphs. Computer Vision and Image Understanding, 2013, 117, 370-385.	4.7	47
81	Hierarchical Video Segmentation Using an Observation Scale. , 2013, , .		5
82	Salient level lines selection using the Mumford-Shah functional. , 2013, , .		15
83	Learning Hierarchical Features for Scene Labeling. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1915-1929.	13.9	2,054
84	Standardized evaluation framework for evaluating coronary artery stenosis detection, stenosis quantification and lumen segmentation algorithms in computed tomography angiography. Medical Image Analysis, 2013, 17, 859-876.	11.6	163
85	Dual Constrained TV-based Regularization on Graphs. SIAM Journal on Imaging Sciences, 2013, 6, 1246-1273.	2.2	49
86	Causal graph-based video segmentation. , 2013, , .		19
87	Playing with Kruskal: Algorithms for Morphological Trees in Edge-Weighted Graphs. Lecture Notes in Computer Science, 2013, , 135-146.	1.3	51
88	Two Applications of Shape-Based Morphology: Blood Vessels Segmentation and a Generalization of Constrained Connectivity. Lecture Notes in Computer Science, 2013, , 390-401.	1.3	17
89	Discrete Set-Valued Continuity and Interpolation. Lecture Notes in Computer Science, 2013, , 37-48.	1.3	19
90	Constructive Links between Some Morphological Hierarchies on Edge-Weighted Graphs. Lecture Notes in Computer Science, 2013, , 86-97.	1.3	28

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91	A hybrid algorithm for automatic heart segmentation in ct angiography. , 2012, , .		0
92	Context-based energy estimator: Application to object segmentation on the tree of shapes. , 2012, , .		26
93	Introduction to the Issue on Filtering and Segmentation With Mathematical Morphology. IEEE Journal on Selected Topics in Signal Processing, 2012, 6, 737-738.	10.8	4
94	Nonsupervised Ranking of Different Segmentation Approaches: Application to the Estimation of the Left Ventricular Ejection Fraction From Cardiac Cine MRI Sequences. IEEE Transactions on Medical Imaging, 2012, 31, 1651-1660.	8.9	27
95	A Hierarchical Image Segmentation Algorithm Based on an Observation Scale. Lecture Notes in Computer Science, 2012, , 116-125.	1.3	29
96	Writing Reusable Digital Topology Algorithms in a Generic Image Processing Framework. Lecture Notes in Computer Science, 2012, , 140-153.	1.3	9
97	On Morphological Hierarchical Representations for Image Processing and Spatial Data Clustering. Lecture Notes in Computer Science, 2012, , 43-67.	1.3	11
98	Curvilinear Structure Enhancement with the Polygonal Path Image - Application to Guide-Wire Segmentation in X-Ray Fluoroscopy. Lecture Notes in Computer Science, 2012, 15, 9-16.	1.3	19
99	Dual constrained TV-based regularization. , 2011, , .		0
100	Incremental Algorithm for Hierarchical Minimum Spanning Forests and Saliency of Watershed Cuts. Lecture Notes in Computer Science, 2011, , 272-283.	1.3	44
101	Combinatorial Continuous Maximum Flow. SIAM Journal on Imaging Sciences, 2011, 4, 905-930.	2.2	29
102	Power Watershed: A Unifying Graph-Based Optimization Framework. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2011, 33, 1384-1399.	13.9	237
103	On the Equivalence Between Hierarchical Segmentations and Ultrametric Watersheds. Journal of Mathematical Imaging and Vision, 2011, 40, 231-247.	1.3	58
104	Artwork 3D model database indexing and classification. Pattern Recognition, 2011, 44, 588-597.	8.1	22
105	A comprehensive study of stent visualization enhancement in X-ray images by image processing means. Medical Image Analysis, 2011, 15, 565-576.	11.6	16
106	Comparison of different segmentation approaches without using gold standard. Application to the estimation of the left ventricle ejection fraction from cardiac cine MRI sequences. , 2011, 2011, 2663-6.		3
107	Seeded Segmentation Methods for Medical Image Analysis. Biological and Medical Physics Series, 2011, , 27-57.	0.4	5
108	Some Morphological Operators on Simplicial Complex Spaces. Lecture Notes in Computer Science, 2011, , 441-452.	1.3	11

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109	Towards a Parallel Topological Watershed: First Results. Lecture Notes in Computer Science, 2011, , 248-259.	1.3	3
110	Segmentation of 4D cardiac MRI: Automated method based on spatio-temporal watershed cuts. Image and Vision Computing, 2010, 28, 1229-1243.	4.5	76
111	A complete processing chain for ship detection using optical satellite imagery. International Journal of Remote Sensing, 2010, 31, 5837-5854.	2.9	155
112	Anisotropic diffusion using power watersheds. , 2010, , .		6
113	Why and howto design a generic and efficient image processing framework: The case of the Milena library. , 2010, , .		16
114	Watershed Cuts: Thinnings, Shortest Path Forests, and Topological Watersheds. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2010, 32, 925-939.	13.9	142
115	Power watersheds: A new image segmentation framework extending graph cuts, random walker and optimal spanning forest. , 2009, , .		81
116	Watershed Cuts: Minimum Spanning Forests and the Drop of Water Principle. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 1362-1374.	13.9	245
117	Some Morphological Operators in Graph Spaces. Lecture Notes in Computer Science, 2009, , 149-160.	1.3	31
118	Milena: Write Generic Morphological Algorithms Once, Run on Many Kinds of Images. Lecture Notes in Computer Science, 2009, , 295-306.	1.3	13
119	Collapses and Watersheds in Pseudomanifolds. Lecture Notes in Computer Science, 2009, , 397-410.	1.3	10
120	Ultrametric Watersheds. Lecture Notes in Computer Science, 2009, , 181-192.	1.3	6
121	4D Morphological segmentation and the MICCAI LV-segmentation grand challenge. , 2009, , .		12
122	Weighted fusion graphs: Merging properties and watersheds. Discrete Applied Mathematics, 2008, 156, 3011-3027.	0.9	11
123	Fusion Graphs: Merging Properties and Watersheds. Journal of Mathematical Imaging and Vision, 2008, 30, 87-104.	1.3	17
124	Parallel Algorithm for Concurrent Computation of Connected Component Tree. Lecture Notes in Computer Science, 2008, , 230-241.	1.3	15
125	Raising in watershed lattices. , 2008, , .		12
126	Region-Based 3D Artwork Indexing and Classification. , 2008, , .		7

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127	On Watershed Cuts and Thinnings. , 2008, , 434-445.		4
128	Multi-Histogram Equalization Methods for Contrast Enhancement and Brightness Preserving. IEEE Transactions on Consumer Electronics, 2007, 53, 1186-1194.	3.6	202
129	A Fast Hue-Preserving Histogram Equalization Method for Color Image Enhancement using a Bayesian Framework. , 2007, , .		19
130	Automated, Accurate and Fast Segmentation of 4D Cardiac MR Images. , 2007, , 474-483.		16
131	An open, clinically-validated database of 3D+t cine-MR images of the left ventricle with associated manual and automated segmentation. The Insight Journal, 2007, , .	0.2	9
132	Building the Component Tree in Quasi-Linear Time. IEEE Transactions on Image Processing, 2006, 15, 3531-3539.	9.8	184
133	Grayscale Watersheds on Perfect Fusion Graphs. Lecture Notes in Computer Science, 2006, , 60-73.	1.3	5
134	Fusion Graphs, Region Merging and Watersheds. Lecture Notes in Computer Science, 2006, , 343-354.	1.3	6
135	Watersheds, mosaics, and the emergence paradigm. Discrete Applied Mathematics, 2005, 147, 301-324.	0.9	42
136	Quasi-Linear Algorithms for the Topological Watershed. Journal of Mathematical Imaging and Vision, 2005, 22, 231-249.	1.3	77
137	Algorithms for the Topological Watershed. Lecture Notes in Computer Science, 2005, , 172-182.	1.3	6
138	Mosaics and Watersheds. , 2005, , 187-196.		0
139	<title>Quasilinear algorithm for the component tree</title>. , 2004, , .		19
140	Watershed Algorithms and Contrast Preservation. Lecture Notes in Computer Science, 2003, , 62-71.	1.3	31
141	Using mathematical morphology for document skew estimation. , 2003, 5296, 182.		14
142	Scan-to-XML: Using Software Component Algebra for Intelligent Document Generation. Lecture Notes in Computer Science, 2002, , 211-221.	1.3	5
143	The Montagne Russe algorithm for global optimization. Mathematical Methods of Operations Research, 1998, 48, 153-168.	1.0	1
144	From crowd simulation to airbag deployment: particle systems, a new paradigm of simulation. Journal of Electronic Imaging, 1997, 6, 94.	0.9	66

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145	Geodesic saliency of watershed contours and hierarchical segmentation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1996, 18, 1163-1173.	13.9	399
146	Lattice operators underlying dynamic systems. Set-Valued and Variational Analysis, 1996, 4, 119-134.	0.5	0
147	Euler Method for Mutational Equations. Journal of Mathematical Analysis and Applications, 1995, 196, 814-822.	1.0	4
148	Mutational equations of the morphological dilation tubes. Journal of Mathematical Imaging and Vision, 1995, 5, 219-230.	1.3	5
149	Topological and geometrical corners by watershed. Lecture Notes in Computer Science, 1995, , 262-269.	1.3	2
150	Watershed of a continuous function. Signal Processing, 1994, 38, 99-112.	3.7	224
151	Indexing technical drawings using title block structure recognition. , 0, , .		11
152	Benchmarking commercial OCR engines for technical drawings indexing. , 0, , .		1
153	Watersheds in Discrete Spaces. , 0, , 81-107.		1
154	Segmentation, Minimum Spanning Tree and Hierarchies. , 0, , 229-261.		8
155	2D Filtering of Curvilinear Structures by Ranking the Orientation Responses of Path Operators (RORPO). Image Processing on Line, 0, 7, 246-261.	0.0	13
156	Spatio-Temporal Cardiac Segmentation. , 0, , 367-373.		0
157	An Introduction to Measurement Theory for Image Analysis. , 0, , 109-131.		0
158	Continuous Well-Composedness Implies Digital Well-Composedness in n-D. Journal of Mathematical Imaging and Vision, 0, , .	1.3	0