

# Laurent Najman

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5358280/publications.pdf>

Version: 2024-02-01

158  
papers

6,070  
citations

185998

28  
h-index

79541

73  
g-index

169  
all docs

169  
docs citations

169  
times ranked

5267  
citing authors

#	ARTICLE	IF	CITATIONS
1	Learning Hierarchical Features for Scene Labeling. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1915-1929.	9.7	2,054
2	Geodesic saliency of watershed contours and hierarchical segmentation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1996, 18, 1163-1173.	9.7	399
3	Watershed Cuts: Minimum Spanning Forests and the Drop of Water Principle. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 1362-1374.	9.7	245
4	Power Watershed: A Unifying Graph-Based Optimization Framework. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2011, 33, 1384-1399.	9.7	237
5	Watershed of a continuous function. Signal Processing, 1994, 38, 99-112.	2.1	224
6	Multi-Histogram Equalization Methods for Contrast Enhancement and Brightness Preserving. IEEE Transactions on Consumer Electronics, 2007, 53, 1186-1194.	3.0	202
7	Building the Component Tree in Quasi-Linear Time. IEEE Transactions on Image Processing, 2006, 15, 3531-3539.	6.0	184
8	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.	7.0	163
9	A complete processing chain for ship detection using optical satellite imagery. International Journal of Remote Sensing, 2010, 31, 5837-5854.	1.3	155
10	Watershed Cuts: Thinnings, Shortest Path Forests, and Topological Watersheds. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2010, 32, 925-939.	9.7	142
11	Power watersheds: A new image segmentation framework extending graph cuts, random walker and optimal spanning forest. , 2009, , .		81
12	Quasi-Linear Algorithms for the Topological Watershed. Journal of Mathematical Imaging and Vision, 2005, 22, 231-249.	0.8	77
13	Segmentation of 4D cardiac MRI: Automated method based on spatio-temporal watershed cuts. Image and Vision Computing, 2010, 28, 1229-1243.	2.7	76
14	From crowd simulation to airbag deployment: particle systems, a new paradigm of simulation. Journal of Electronic Imaging, 1997, 6, 94.	0.5	66
15	A Quasi-linear Algorithm to Compute the Tree of Shapes of nD Images. Lecture Notes in Computer Science, 2013, , 98-110.	1.0	63
16	On the Equivalence Between Hierarchical Segmentations and Ultrametric Watersheds. Journal of Mathematical Imaging and Vision, 2011, 40, 231-247.	0.8	58
17	Connected Filtering on Tree-Based Shape-Spaces. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2016, 38, 1126-1140.	9.7	55
18	Playing with Kruskal: Algorithms for Morphological Trees in Edge-Weighted Graphs. Lecture Notes in Computer Science, 2013, , 135-146.	1.0	51

#	ARTICLE	IF	CITATIONS
19	Dual Constrained TV-based Regularization on Graphs. SIAM Journal on Imaging Sciences, 2013, 6, 1246-1273.	1.3	49
20	Morphological filtering on graphs. Computer Vision and Image Understanding, 2013, 117, 370-385.	3.0	47
21	Hierarchical Segmentations with Graphs: Quasi-flat Zones, Minimum Spanning Trees, and Saliency Maps. Journal of Mathematical Imaging and Vision, 2018, 60, 479-502.	0.8	46
22	Curvilinear Structure Analysis by Ranking the Orientation Responses of Path Operators. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2018, 40, 304-317.	9.7	46
23	Incremental Algorithm for Hierarchical Minimum Spanning Forests and Saliency of Watershed Cuts. Lecture Notes in Computer Science, 2011, , 272-283.	1.0	44
24	Hierarchical Segmentation Using Tree-Based Shape Spaces. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2017, 39, 457-469.	9.7	44
25	Watersheds, mosaics, and the emergence paradigm. Discrete Applied Mathematics, 2005, 147, 301-324.	0.5	42
26	A graph-based mathematical morphology reader. Pattern Recognition Letters, 2014, 47, 3-17.	2.6	42
27	Tree-Based Morse Regions: A Topological Approach to Local Feature Detection. IEEE Transactions on Image Processing, 2014, 23, 5612-5625.	6.0	41
28	Watershed Algorithms and Contrast Preservation. Lecture Notes in Computer Science, 2003, , 62-71.	1.0	31
29	Higra: Hierarchical Graph Analysis. SoftwareX, 2019, 10, 100335.	1.2	31
30	Some Morphological Operators in Graph Spaces. Lecture Notes in Computer Science, 2009, , 149-160.	1.0	31
31	Combinatorial Continuous Maximum Flow. SIAM Journal on Imaging Sciences, 2011, 4, 905-930.	1.3	29
32	A Hierarchical Image Segmentation Algorithm Based on an Observation Scale. Lecture Notes in Computer Science, 2012, , 116-125.	1.0	29
33	A Tutorial on Well-Composedness. Journal of Mathematical Imaging and Vision, 2018, 60, 443-478.	0.8	28
34	Constructive Links between Some Morphological Hierarchies on Edge-Weighted Graphs. Lecture Notes in Computer Science, 2013, , 86-97.	1.0	28
35	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.	5.4	27
36	Context-based energy estimator: Application to object segmentation on the tree of shapes. , 2012, , .		26

#	ARTICLE	IF	CITATIONS
37	Myocardial Perfusion Simulation for Coronary Artery Disease: A Coupled Patient-Specific Multiscale Model. <i>Annals of Biomedical Engineering</i> , 2021, 49, 1432-1447.	1.3	25
38	Generation of Patient-Specific Cardiac Vascular Networks: A Hybrid Image-Based and Synthetic Geometric Model. <i>IEEE Transactions on Biomedical Engineering</i> , 2019, 66, 946-955.	2.5	24
39	Artwork 3D model database indexing and classification. <i>Pattern Recognition</i> , 2011, 44, 588-597.	5.1	22
40	Automated 3D lymphoma lesion segmentation from PET/CT characteristics. , 2017, , .		22
41	Hierarchical image simplification and segmentation based on Mumford-Shah-salient level line selection. <i>Pattern Recognition Letters</i> , 2016, 83, 278-286.	2.6	21
42	<title>Quasilinear algorithm for the component tree</title>. , 2004, , .		19
43	A Fast Hue-Preserving Histogram Equalization Method for Color Image Enhancement using a Bayesian Framework. , 2007, , .		19
44	Causal graph-based video segmentation. , 2013, , .		19
45	Curvilinear Structure Enhancement with the Polygonal Path Image - Application to Guide-Wire Segmentation in X-Ray Fluoroscopy. <i>Lecture Notes in Computer Science</i> , 2012, 15, 9-16.	1.0	19
46	Discrete Set-Valued Continuity and Interpolation. <i>Lecture Notes in Computer Science</i> , 2013, , 37-48.	1.0	19
47	Fusion Graphs: Merging Properties and Watersheds. <i>Journal of Mathematical Imaging and Vision</i> , 2008, 30, 87-104.	0.8	17
48	Collapses and Watersheds in Pseudomanifolds of Arbitrary Dimension. <i>Journal of Mathematical Imaging and Vision</i> , 2014, 50, 261-285.	0.8	17
49	How to Make nD Functions Digitally Well-Composed in a Self-dual Way. <i>Lecture Notes in Computer Science</i> , 2015, , 561-572.	1.0	17
50	Two Applications of Shape-Based Morphology: Blood Vessels Segmentation and a Generalization of Constrained Connectivity. <i>Lecture Notes in Computer Science</i> , 2013, , 390-401.	1.0	17
51	Why and howto design a generic and efficient image processing framework: The case of the Milena library. , 2010, , .		16
52	A comprehensive study of stent visualization enhancement in X-ray images by image processing means. <i>Medical Image Analysis</i> , 2011, 15, 565-576.	7.0	16
53	Automated, Accurate and Fast Segmentation of 4D Cardiac MR Images. , 2007, , 474-483.		16
54	Parallel Algorithm for Concurrent Computation of Connected Component Tree. <i>Lecture Notes in Computer Science</i> , 2008, , 230-241.	1.0	15

#	ARTICLE	IF	CITATIONS
55	Salient level lines selection using the Mumford-Shah functional. , 2013, , .		15
56	Efficient Computation of Attributes and Saliency Maps on Tree-Based Image Representations. Lecture Notes in Computer Science, 2015, , 693-704.	1.0	15
57	Using mathematical morphology for document skew estimation. , 2003, 5296, 182.		14
58	Tubular Structure Filtering by Ranking Orientation Responses of Path Operators. Lecture Notes in Computer Science, 2014, , 203-218.	1.0	14
59	Extending the Power Watershed Framework Thanks to $\Gamma$ -Convergence. SIAM Journal on Imaging Sciences, 2017, 10, 2275-2292.	1.3	13
60	Milena: Write Generic Morphological Algorithms Once, Run on Many Kinds of Images. Lecture Notes in Computer Science, 2009, , 295-306.	1.0	13
61	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
62	Raising in watershed lattices. , 2008, , .		12
63	Hierarchies and shape-space for pet image segmentation. , 2015, , .		12
64	Power Spectral Clustering. Journal of Mathematical Imaging and Vision, 2020, 62, 1195-1213.	0.8	12
65	4D Morphological segmentation and the MICCAI LV-segmentation grand challenge. , 2009, , .		12
66	Indexing technical drawings using title block structure recognition. , 0, , .		11
67	Weighted fusion graphs: Merging properties and watersheds. Discrete Applied Mathematics, 2008, 156, 3011-3027.	0.5	11
68	Improved Estimation of Cardiac Function Parameters Using a Combination of Independent Automated Segmentation Results in Cardiovascular Magnetic Resonance Imaging. PLoS ONE, 2015, 10, e0135715.	1.1	11
69	How to make nD images well-composed without interpolation. , 2015, , .		11
70	Removing non-significant regions in hierarchical clustering and segmentation. Pattern Recognition Letters, 2019, 128, 433-439.	2.6	11
71	Some Morphological Operators on Simplicial Complex Spaces. Lecture Notes in Computer Science, 2011, , 441-452.	1.0	11
72	On Morphological Hierarchical Representations for Image Processing and Spatial Data Clustering. Lecture Notes in Computer Science, 2012, , 43-67.	1.0	11

#	ARTICLE	IF	CITATIONS
73	Collapses and Watersheds in Pseudomanifolds. Lecture Notes in Computer Science, 2009, , 397-410.	1.0	10
74	Writing Reusable Digital Topology Algorithms in a Generic Image Processing Framework. Lecture Notes in Computer Science, 2012, , 140-153.	1.0	9
75	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
76	Segmentation, Minimum Spanning Tree and Hierarchies. , 0, , 229-261.		8
77	Region-Based 3D Artwork Indexing and Classification. , 2008, , .		7
78	Hierarchizing graph-based image segmentation algorithms relying on region dissimilarity. Mathematical Morphology - Theory and Applications, 2017, 2, .	0.6	7
79	Some Properties of Interpolations Using Mathematical Morphology. IEEE Transactions on Image Processing, 2018, 27, 2038-2048.	6.0	7
80	Shaping for PET image analysis. Pattern Recognition Letters, 2020, 131, 307-313.	2.6	7
81	On Making nD Images Well-Composed by a Self-dual Local Interpolation. Lecture Notes in Computer Science, 2014, , 320-331.	1.0	7
82	Algorithms for the Topological Watershed. Lecture Notes in Computer Science, 2005, , 172-182.	1.0	6
83	Anisotropic diffusion using power watersheds. , 2010, , .		6
84	Dimensional operators for mathematical morphology on simplicial complexes. Pattern Recognition Letters, 2014, 47, 111-119.	2.6	6
85	Fusion Graphs, Region Merging and Watersheds. Lecture Notes in Computer Science, 2006, , 343-354.	1.0	6
86	Evaluation of Combinations of Watershed Hierarchies. Lecture Notes in Computer Science, 2017, , 133-145.	1.0	6
87	Triplet-Watershed for Hyperspectral Image Classification. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-14.	2.7	6
88	Ultrametric Watersheds. Lecture Notes in Computer Science, 2009, , 181-192.	1.0	6
89	Mutational equations of the morphological dilation tubes. Journal of Mathematical Imaging and Vision, 1995, 5, 219-230.	0.8	5
90	Grayscale Watersheds on Perfect Fusion Graphs. Lecture Notes in Computer Science, 2006, , 60-73.	1.0	5

#	ARTICLE	IF	CITATIONS
91	Introduction to Mathematical Morphology. , 2013, , 1-33.		5
92	Hierarchical Video Segmentation Using an Observation Scale. , 2013, , .		5
93	A regionalized automated measurement of ciliary beating frequency. , 2015, , .		5
94	Extending K-Means to Preserve Spatial Connectivity. , 2018, , .		5
95	Watersheds for Semi-Supervised Classification. IEEE Signal Processing Letters, 2019, 26, 720-724.	2.1	5
96	Iterated Watersheds, A Connected Variation of K-Means for Clustering GIS Data. IEEE Transactions on Emerging Topics in Computing, 2021, 9, 626-636.	3.2	5
97	Seeded Segmentation Methods for Medical Image Analysis. Biological and Medical Physics Series, 2011, , 27-57.	0.3	5
98	An Equivalence Relation Between Morphological Dynamics and Persistent Homology in 1D. Lecture Notes in Computer Science, 2019, , 57-68.	1.0	5
99	An Introduction to Gamma-Convergence for Spectral Clustering. Lecture Notes in Computer Science, 2017, , 185-196.	1.0	5
100	Well-Composedness in Alexandrov Spaces Implies Digital Well-Composedness in $\mathbb{Z}^n$ . Lecture Notes in Computer Science, 2017, , 225-237.	1.0	5
101	Scan-to-XML: Using Software Component Algebra for Intelligent Document Generation. Lecture Notes in Computer Science, 2002, , 211-221.	1.0	5
102	Euler Method for Mutational Equations. Journal of Mathematical Analysis and Applications, 1995, 196, 814-822.	0.5	4
103	Introduction to the Issue on Filtering and Segmentation With Mathematical Morphology. IEEE Journal on Selected Topics in Signal Processing, 2012, 6, 737-738.	7.3	4
104	A mutual reference shape based on information theory. , 2014, , .		4
105	Morphological floodings and optimal cuts in hierarchies. , 2014, , .		4
106	Multicriteria 3D PET image segmentation. , 2015, , .		4
107	Ranking Orientation Responses of Path Operators: Motivations, Choices and Algorithmics. Lecture Notes in Computer Science, 2015, , 633-644.	1.0	4
108	How to Make n-D Plain Maps Defined on Discrete Surfaces Alexandrov-Well-Composed in a Self-Dual Way. Journal of Mathematical Imaging and Vision, 2019, 61, 849-873.	0.8	4

#	ARTICLE	IF	CITATIONS
109	Shape-Based Analysis on Component-Graphs for Multivalued Image Processing. Lecture Notes in Computer Science, 2015, , 446-457.	1.0	4
110	On Watershed Cuts and Thinnings. , 2008, , 434-445.		4
111	Rethinking interactive image segmentation: Feature space annotation. Pattern Recognition, 2022, 131, 108882.	5.1	4
112	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
113	A Comparison of Some Morphological Filters for Improving OCR Performance. Lecture Notes in Computer Science, 2015, , 134-145.	1.0	3
114	Tree-Wise Discriminative Subtree Selection for Texture Image Labeling. IEEE Access, 2017, 5, 13617-13634.	2.6	3
115	Power spectral clustering on hyperspectral data. , 2017, , .		3
116	Properties of combinations of hierarchical watersheds. Pattern Recognition Letters, 2019, 128, 513-520.	2.6	3
117	Some Theoretical Links Between Shortest Path Filters and Minimum Spanning Tree Filters. Journal of Mathematical Imaging and Vision, 2019, 61, 745-762.	0.8	3
118	Characterization of Graph-Based Hierarchical Watersheds: Theory and Algorithms. Journal of Mathematical Imaging and Vision, 2020, 62, 627-658.	0.8	3
119	A tutorial on applications of power watershed optimization to image processing. European Physical Journal: Special Topics, 2021, 230, 2337-2361.	1.2	3
120	Graph-Based Supervoxel Computation from Iterative Spanning Forest. Lecture Notes in Computer Science, 2021, , 404-415.	1.0	3
121	Recognizing Hierarchical Watersheds. Lecture Notes in Computer Science, 2019, , 300-313.	1.0	3
122	Hierarchical Image Segmentation Relying on a Likelihood Ratio Test. Lecture Notes in Computer Science, 2015, , 25-35.	1.0	3
123	Power Tree Filter: A Theoretical Framework Linking Shortest Path Filters and Minimum Spanning Tree Filters. Lecture Notes in Computer Science, 2017, , 199-210.	1.0	3
124	Towards a Parallel Topological Watershed: First Results. Lecture Notes in Computer Science, 2011, , 248-259.	1.0	3
125	Some Equivalence Relation between Persistent Homology and Morphological Dynamics. Journal of Mathematical Imaging and Vision, 2022, 64, 807-824.	0.8	3
126	Meaningful disjoint level lines selection. , 2014, , .		2



#	ARTICLE	IF	CITATIONS
127	Automating the measurement of physiological parameters: A case study in the image analysis of cilia motion. , 2016, , .		2
128	Revisiting the Isoperimetric Graph Partitioning Problem. IEEE Access, 2019, 7, 50636-50649.	2.6	2
129	Shape-Based Analysis on Component-Graphs for Multivalued Image Processing. Mathematical Morphology - Theory and Applications, 2019, 3, 45-70.	0.6	2
130	CGO: Multiband Astronomical Source Detection With Component-Graphs. , 2020, , .		2
131	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.	0.8	2
132	Practical Genericity: Writing Image Processing Algorithms Both Reusable and Efficient. Lecture Notes in Computer Science, 2014, , 70-79.	1.0	2
133	Topological and geometrical corners by watershed. Lecture Notes in Computer Science, 1995, , 262-269.	1.0	2
134	A 4D Counter-Example Showing that DWCNess Does Not Imply CWCNess in nD. Lecture Notes in Computer Science, 2020, , 73-87.	1.0	2
135	Object Detection With Component-Graphs in Multi-Band Images: Application to Source Detection in Astronomical Images. IEEE Access, 2021, 9, 156482-156491.	2.6	2
136	The Montagne Russe algorithm for global optimization. Mathematical Methods of Operations Research, 1998, 48, 153-168.	0.4	1
137	Benchmarking commercial OCR engines for technical drawings indexing. , 0, , .		1
138	Special issue on advances in mathematical morphology. Pattern Recognition Letters, 2014, 47, 1-2.	2.6	1
139	Discriminative Subtree Selection for NBI Endoscopic Image Labeling. Lecture Notes in Computer Science, 2017, , 610-624.	1.0	1
140	Scale-space for empty catheter segmentation in PCI fluoroscopic images. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 1179-1188.	1.7	1
141	Watersheds in Discrete Spaces. , 0, , 81-107.		1
142	When Convex Analysis Meets Mathematical Morphology on Graphs. Lecture Notes in Computer Science, 2015, , 473-484.	1.0	1
143	Lattice operators underlying dynamic systems. Set-Valued and Variational Analysis, 1996, 4, 119-134.	0.5	0
144	Dual constrained TV-based regularization. , 2011, , .		0

#	ARTICLE	IF	CITATIONS
145	A hybrid algorithm for automatic heart segmentation in ct angiography. , 2012, , .		0
146	Learning-based automatic detection of severe coronary stenoses in CT angiographies. Proceedings of SPIE, 2014, , .	0.8	0
147	Periodic area-of-motion characterization for bio-medical applications. , 2017, , .		0
148	Watershedding Hierarchies. Lecture Notes in Computer Science, 2019, , 124-136.	1.0	0
149	Exploring Hierarchy Simplification for Non-Significant Region Removal. , 2019, , .		0
150	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.	0.8	0
151	Spatio-Temporal Cardiac Segmentation. , 0, , 367-373.		0
152	An Introduction to Measurement Theory for Image Analysis. , 0, , 109-131.		0
153	Efficient Polynomial Implementation of Several Multithresholding Methods for Gray-Level Image Segmentation. Lecture Notes in Computer Science, 2015, , 350-357.	1.0	0
154	Watersheds on Hypergraphs for Data Clustering. Lecture Notes in Computer Science, 2017, , 211-221.	1.0	0
155	VOIDD: Automatic Vessel-of-Intervention Dynamic Detection in PCI Procedures. Lecture Notes in Computer Science, 2017, , 47-56.	1.0	0
156	On the Probabilities of Hierarchical Watersheds. Lecture Notes in Computer Science, 2019, , 137-149.	1.0	0
157	Mosaics and Watersheds. , 2005, , 187-196.		0
158	Continuous Well-Composedness Implies Digital Well-Composedness in n-D. Journal of Mathematical Imaging and Vision, 0, , .	0.8	0