

Pierre Soille

List of Publications by Year in descending order

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152
papers

10,890
citations

87888

38
h-index

43889

91
g-index

162
all docs

162
docs citations

162
times ranked

9462
citing authors

#	ARTICLE	IF	CITATIONS
1	Parallel Processing Strategies for Geospatial Data in a Cloud Computing Infrastructure. Remote Sensing, 2022, 14, 398.	4.0	1
2	Convolutional neural networks for global human settlements mapping from Sentinel-2 satellite imagery. Neural Computing and Applications, 2021, 33, 6697-6720.	5.6	72
3	Crop Classification from Sentinel-2 Time Series with Temporal Convolutional Neural Networks. , 2021, , .		1
4	Mosaicking Copernicus Sentinel-1 Data at Global Scale. IEEE Transactions on Big Data, 2020, 6, 547-557.	6.1	7
5	Special Issue on Big Data From Space. IEEE Transactions on Big Data, 2020, 6, 427-429.	6.1	2
6	SatImNet: Structured and Harmonised Training Data for Enhanced Satellite Imagery Classification. Remote Sensing, 2020, 12, 3358.	4.0	5
7	Application of the Symbolic Machine Learning to Copernicus VHR Imagery: The European Settlement Map. IEEE Geoscience and Remote Sensing Letters, 2020, 17, 1153-1157.	3.1	9
8	A global cloud free pixel-based image composite from Sentinel-2 data. Data in Brief, 2020, 31, 105737.	1.0	34
9	Automated global delineation of human settlements from 40 years of Landsat satellite data archives. Big Earth Data, 2019, 3, 140-169.	4.4	106
10	Evaluation of the Potential of Convolutional Neural Networks and Random Forests for Multi-Class Segmentation of Sentinel-2 Imagery. Remote Sensing, 2019, 11, 907.	4.0	28
11	pyjeo: A Python Package for the Analysis of Geospatial Data. ISPRS International Journal of Geo-Information, 2019, 8, 461.	2.9	5
12	A versatile data-intensive computing platform for information retrieval from big geospatial data. Future Generation Computer Systems, 2018, 81, 30-40.	7.5	102
13	Optimizing Sentinel-2 image selection in a Big Data context. Big Earth Data, 2017, 1, 145-158.	4.4	23
14	Big earth data analytics on Sentinel-1 and Landsat imagery in support to global human settlements mapping. Big Earth Data, 2017, 1, 118-144.	4.4	96
15	Mass Processing of Sentinel-1 Images for Maritime Surveillance. Remote Sensing, 2017, 9, 678.	4.0	39
16	Assessment of the Added-Value of Sentinel-2 for Detecting Built-up Areas. Remote Sensing, 2016, 8, 299.	4.0	145
17	A Special Issue on Big Data from Space for Geoscience and Remote Sensing [From the Guest Editors]. IEEE Geoscience and Remote Sensing Magazine, 2016, 4, 7-9.	9.6	8
18	A New European Settlement Map From Optical Remotely Sensed Data. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2016, 9, 1978-1992.	4.9	45

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19	Local Mutual Information for Dissimilarity-Based Image Segmentation. Journal of Mathematical Imaging and Vision, 2014, 48, 625-644.	1.3	20
20	Conditional Toggle Mappings: Principles and Applications. Journal of Mathematical Imaging and Vision, 2014, 48, 544-565.	1.3	9
21	Extracting building stock information from optical satellite imagery for mapping earthquake exposure and its vulnerability. Natural Hazards, 2013, 68, 79-95.	3.4	32
22	A Global Human Settlement Layer From Optical HR/VHR RS Data: Concept and First Results. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2013, 6, 2102-2131.	4.9	338
23	Automatic recognition of built-up areas in China using CBERS-2B HR data. , 2013, , .		0
24	Edge extraction by statistical dependence analysis: application to multi-angular WorldView-2 series. , 2012, , .		4
25	A new built-up presence index based on density of corners. , 2012, , .		8
26	Digital Surface Model Extraction and Refinement through Image Segmentation - Application to the ISPRS Benchmark Stereo Dataset. Photogrammetrie, Fernerkundung, Geoinformation, 2012, 2012, 317-329.	1.2	6
27	Differential Area Profiles: Decomposition Properties and Efficient Computation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2012, 34, 1533-1548.	13.9	42
28	Improving the automated detection of refugee/IDP dwellings using the multispectral bands of the WorldView-2 satellite. , 2012, , .		0
29	Characterizing and Counting Roofless Buildings in Very High Resolution Optical Images. IEEE Geoscience and Remote Sensing Letters, 2012, 9, 114-118.	3.1	12
30	Influence of pit removal methods on river network position. Hydrological Processes, 2012, 26, 1984-1990.	2.6	12
31	On Morphological Hierarchical Representations for Image Processing and Spatial Data Clustering. Lecture Notes in Computer Science, 2012, , 43-67.	1.3	11
32	Change Detection Based on Information Measure. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4503-4515.	6.3	56
33	A probabilistic approach to river network detection in digital elevation models. Catena, 2011, 87, 341-350.	5.0	10
34	An automated procedure for detection of IDP's dwellings using VHR satellite imagery. , 2011, , .		5
35	Enumeration of Dwellings in Darfur Camps From GeoEye-1 Satellite Images Using Mathematical Morphology. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2011, 4, 8-15.	4.9	38
36	Concurrent Computation of Differential Morphological Profiles on Giga-Pixel Images. Lecture Notes in Computer Science, 2011, , 331-342.	1.3	5

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37	Monitoring changes in the Menik Farm IDP camps in Sri Lanka using multi-temporal very high-resolution satellite data. <i>International Journal of Digital Earth</i> , 2011, 4, 91-106.	3.9	20
38	An interactive image mining tool handling gigapixel images. , 2011, , .		7
39	Preventing Chaining through Transitions While Favouring It within Homogeneous Regions. <i>Lecture Notes in Computer Science</i> , 2011, , 96-107.	1.3	9
40	A new generic method for semi-automatic extraction of river and road networks in low- and mid-resolution satellite images. <i>Proceedings of SPIE</i> , 2010, , .	0.8	1
41	Differential Area Profiles. , 2010, , .		9
42	Hierarchical Segmentation of Complex Structures. , 2010, , .		0
43	Automatic information retrieval from meter and sub-meter resolution satellite image data in support to crisis management. , 2010, , .		5
44	Differential Morphological Decomposition Segmentation: A Multi-Scale Object Based Image Description. , 2010, , .		5
45	Multichannel Image Regularisation Using Anisotropic Geodesic Filtering. , 2010, , .		0
46	Iterative Ramp Sharpening for Structure/Signature-Preserving Simplification of Images. , 2010, , .		0
47	Constrained connectivity for the processing of very-high-resolution satellite images. <i>International Journal of Remote Sensing</i> , 2010, 31, 5879-5893.	2.9	17
48	Post-Event Damage Assessment Using Morphological Methodology on 0.5m Resolution Satellite Data. <i>European Journal of Remote Sensing</i> , 2010, , 37-47.	0.2	4
49	Land Cover Detection with Unsupervised Clustering and Hierarchical Partitioning. <i>Studies in Classification, Data Analysis, and Knowledge Organization</i> , 2010, , 455-462.	0.2	1
50	Chapter 4 Preparation of DEMs for Geomorphometric Analysis. <i>Developments in Soil Science</i> , 2009, , 87-120.	0.5	53
51	Landscape patterns from mathematical morphology on maps with contagion. <i>Landscape Ecology</i> , 2009, 24, 699-709.	4.2	42
52	Morphological segmentation of binary patterns. <i>Pattern Recognition Letters</i> , 2009, 30, 456-459.	4.2	404
53	Edge-preserving smoothing using a similarity measure in adaptive geodesic neighbourhoods. <i>Pattern Recognition</i> , 2009, 42, 2306-2316.	8.1	51
54	Recent developments in morphological image processing for remote sensing. <i>Proceedings of SPIE</i> , 2009, , .	0.8	2

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55	Constrained Connectivity and Transition Regions. Lecture Notes in Computer Science, 2009, , 59-69.	1.3	21
56	Image Filtering Based on Locally Estimated Geodesic Functions. Communications in Computer and Information Science, 2009, , 123-134.	0.5	3
57	Constrained connectivity for hierarchical image partitioning and simplification. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2008, 30, 1132-1145.	13.9	184
58	Advances in Constrained Connectivity. , 2008, , 423-433.		7
59	Adaptive Morphological Filtering Using Similarities Based on Geodesic Time. , 2008, , 519-528.		7
60	Automated morphological image composition for mosaicing large image data sets. , 2007, , .		13
61	Mapping landscape corridors. Ecological Indicators, 2007, 7, 481-488.	6.3	155
62	Deriving river networks and catchments at the European scale from medium resolution digital elevation data. Catena, 2007, 70, 296-305.	5.0	52
63	Adaptive Mosaicing: Principle and Application to the Mosaicing of Large Image Data Sets. Lecture Notes in Computer Science, 2007, , 500-507.	1.3	3
64	On Genuine Connectivity Relations Based on Logical Predicates. , 2007, , .		14
65	Woody vegetation increase in Alpine areas: a proposal for a classification and validation scheme. International Journal of Remote Sensing, 2007, 28, 143-166.	2.9	3
66	Extraction of River Networks from Satellite Images by Combining Mathematical Morphology and Hydrology. Lecture Notes in Computer Science, 2007, , 636-644.	1.3	9
67	Iterative area filtering of multichannel images. Image and Vision Computing, 2007, 25, 1352-1364.	4.5	28
68	Morphological Texture Features for Unsupervised and Supervised Segmentations of Natural Landscapes. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1074-1083.	6.3	41
69	Neutral model analysis of landscape patterns from mathematical morphology. Landscape Ecology, 2007, 22, 1033-1043.	4.2	50
70	From Mathematical Morphology to Morphological Terrain Features. , 2007, , 45-66.		4
71	Development of a pan-European River and Catchment Database. Lecture Notes in Geoinformation and Cartography, 2007, , 121-144.	1.0	68
72	Fast Algorithm for Order Independent Binary Homotopic Thinning. Lecture Notes in Computer Science, 2007, , 606-615.	1.3	4

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73	Improved Morphological Interpolation of Elevation Contour Data with Generalised Geodesic Propagations. Lecture Notes in Computer Science, 2007, , 742-750.	1.3	4
74	Morphological image compositing. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2006, 28, 673-683.	13.9	74
75	Order Independence in Binary 2D Homotopic Thinning. Lecture Notes in Computer Science, 2006, , 592-604.	1.3	5
76	Beyond self-duality in morphological image analysis. Image and Vision Computing, 2005, 23, 249-257.	4.5	50
77	Order Independent Image Compositing. Lecture Notes in Computer Science, 2005, , 1076-1083.	1.3	7
78	Iterative Area Seeded Region Growing for Multichannel Image Simplification. , 2005, , 397-406.		5
79	Morphological Refinement of an Image Segmentation. Lecture Notes in Computer Science, 2005, , 538-545.	1.3	3
80	A Queue Based Algorithm for Order Independent Anchored Skeletonisation. Lecture Notes in Computer Science, 2005, , 530-537.	1.3	0
81	Morphological carving. Pattern Recognition Letters, 2004, 25, 543-550.	4.2	30
82	Optimal removal of spurious pits in grid digital elevation models. Water Resources Research, 2004, 40, .	4.2	71
83	Tests with VHR images for the identification of olive trees and other fruit trees in the European Union. , 2004, 5568, 23.		2
84	Morphological Image Analysis. , 2004, , .		537
85	Background Notions. , 2004, , 15-62.		6
86	Erosion and Dilation. , 2004, , 63-103.		20
87	Opening and Closing. , 2004, , 105-137.		20
88	Hit-or-miss and Skeletons. , 2004, , 139-182.		6
89	Geodesic Transformations. , 2004, , 183-218.		3
90	Segmentation. , 2004, , 267-292.		2

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91	DETECTION OF VEGETATION CHANGES IN AN ALPINE PROTECTED AREA. , 2004, , .		1
92	Application Fields. , 2004, , 347-368.		1
93	Texture analysis. , 2004, , 317-346.		1
94	Carving and adaptive drainage enforcement of grid digital elevation models. Water Resources Research, 2003, 39, .	4.2	125
95	Information extraction from very high resolution satellite imagery over Lukole refugee camp, Tanzania. International Journal of Remote Sensing, 2003, 24, 4251-4266.	2.9	108
96	Can satellite images provide useful information on refugee camps?. International Journal of Remote Sensing, 2003, 24, 4249-4250.	2.9	3
97	On the Morphological Processing of Objects with Varying Local Contrast. Lecture Notes in Computer Science, 2003, , 52-61.	1.3	3
98	A European Landscape Stratification Reflecting Drainage Density. , 2003, , 95-110.		4
99	Advances in mathematical morphology applied to geoscience and remote sensing. IEEE Transactions on Geoscience and Remote Sensing, 2002, 40, 2042-2055.	6.3	267
100	Order independent homotopic thinning for binary and grey tone anchored skeletons. Pattern Recognition Letters, 2002, 23, 687-702.	4.2	52
101	On morphological operators based on rank filters. Pattern Recognition, 2002, 35, 527-535.	8.1	67
102	Morphological Texture Analysis: An Introduction. Lecture Notes in Physics, 2002, , 215-237.	0.7	9
103	Advances in the Analysis of Topographic Features on Discrete Images. Lecture Notes in Computer Science, 2002, , 175-186.	1.3	25
104	Directional morphological filtering. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2001, 23, 1313-1329.	13.9	137
105	Tree ring area measurements using morphological image analysis. Canadian Journal of Forest Research, 2001, 31, 1074-1083.	1.7	29
106	Real-time Registration of Paper Watermarks. Real Time Imaging, 2001, 7, 367-380.	1.6	11
107	From Binary to Grey Scale Convex Hulls. Fundamenta Informaticae, 2000, 41, 131-146.	0.4	7
108	Morphological image analysis applied to crop field mapping. Image and Vision Computing, 2000, 18, 1025-1032.	4.5	45

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109	Morphological Operators with Discrete Line Segments. Lecture Notes in Computer Science, 2000, , 78-98.	1.3	5
110	N-dimensional Frameworks for the Application of Soft Computing to Image Processing. , 2000, , 519-529.		0
111	Morphological Operators. , 2000, , 483-515.		1
112	Morphological Image Analysis. , 1999, , .		1,163
113	Morphological phase unwrapping. Optics and Lasers in Engineering, 1999, 32, 339-352.	3.8	10
114	<title>Unwrapping of phase maps using mathematical morphology</title>. , 1999, , .		0
115	Order Independent Homotopic Thinning. Lecture Notes in Computer Science, 1999, , 337-346.	1.3	9
116	Background Notions. , 1999, , 15-48.		2
117	Erosion and Dilation. , 1999, , 49-88.		7
118	Opening and Closing. , 1999, , 89-127.		10
119	Segmentation. , 1999, , 229-254.		1
120	Geodesic Metrics. , 1999, , 185-205.		0
121	Application Fields. , 1999, , 279-296.		0
122	Geodesic Transformations. , 1999, , 155-183.		5
123	Morphologische Bildverarbeitung. , 1998, , .		22
124	Erosion und Dilatation. , 1998, , 51-93.		1
125	Geodätische Transformationen. , 1998, , 159-189.		0
126	Öffnung und Schließung. , 1998, , 95-131.		0

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127	Geodätische Distanzen. , 1998, , 191-212.		0
128	Klassifikation. , 1998, , 261-286.		0
129	Segmentierung. , 1998, , 237-260.		0
130	Recursive implementation of erosions and dilations along discrete lines at arbitrary angles. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1996, 18, 562-567.	13.9	99
131	On the Validity of Fractal Dimension Measurements in Image Analysis. Journal of Visual Communication and Image Representation, 1996, 7, 217-229.	2.8	102
132	Periodic lines: Definition, cascades, and application to granulometries. Pattern Recognition Letters, 1996, 17, 1057-1063.	4.2	96
133	Morphological partitioning of multispectral images. Journal of Electronic Imaging, 1996, 5, 252.	0.9	41
134	Periodic Lines and their Application to Granulometries. Computational Imaging and Vision, 1996, , 263-272.	0.6	3
135	Physical significance of image measurements. IEEE Transactions on Instrumentation and Measurement, 1995, 44, 751-754.	4.7	2
136	Generalized geodesy via geodesic time. Pattern Recognition Letters, 1994, 15, 1235-1240.	4.2	73
137	An Efficient Algorithm for Drainage Network Extraction on DEMs. Journal of Visual Communication and Image Representation, 1994, 5, 181-189.	2.8	79
138	Morphological gradients. Journal of Electronic Imaging, 1993, 2, 326.	0.9	102
139	<title>Dimensionality of morphological operators and cluster analysis</title>. , 1993, , .		7
140	Dimensional measurements and operators in mathematical morphology. , 1992, , .		4
141	Morphological gradients. , 1992, 1658, 139.		7
142	Dimensionality in image analysis. Journal of Visual Communication and Image Representation, 1992, 3, 137-146.	2.8	22
143	Watersheds in digital spaces: an efficient algorithm based on immersion simulations. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991, 13, 583-598.	13.9	4,392
144	Spatial distributions from contour lines: An efficient methodology based on distance transformations. Journal of Visual Communication and Image Representation, 1991, 2, 138-150.	2.8	58

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145	<title>Determining watersheds in digital pictures via flooding simulations</title>. , 1990, , .		75
146	Extraction of grid patterns on stamped metal sheets using mathematical morphology. , 0, , .		7
147	Physical significance of measurements in images. , 0, , .		0
148	Image structure orientation using mathematical morphology. , 0, , .		11
149	Segmentation of natural landscapes using morphological texture features. , 0, , .		1
150	Global Human Settlement Analysis for Disaster Risk Reduction. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XL-7/W3, 837-843.	0.2	27
151	REFINEMENT OF DIGITAL SURFACE MODELS THROUGH CONSTRAINED CONNECTIVITY PARTITIONING OF OPTICAL IMAGERY. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XXXVIII-4/W19, 245-250.	0.2	0
152	Satellite Imagery and Digital Elevation Models. , 0, , 393-405.		0