

Changming Sun

List of Publications by Year in descending order

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Version: 2024-02-01

157
papers

3,589
citations

201674

27
h-index

182427

51
g-index

159
all docs

159
docs citations

159
times ranked

3496
citing authors

#	ARTICLE	IF	CITATIONS
1	Crowdsourcing the creation of image segmentation algorithms for connectomics. <i>Frontiers in Neuroanatomy</i> , 2015, 9, 142.	1.7	248
2	Splitting touching cells based on concave points and ellipse fitting. <i>Pattern Recognition</i> , 2009, 42, 2434-2446.	8.1	229
3	RA-UNet: A Hybrid Deep Attention-Aware Network to Extract Liver and Tumor in CT Scans. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 605132.	4.1	187
4	3D symmetry detection using the extended Gaussian image. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 1997, 19, 164-168.	13.9	178
5	Fast Stereo Matching Using Rectangular Subregioning and 3D Maximum-Surface Techniques. <i>International Journal of Computer Vision</i> , 2002, 47, 99-117.	15.6	177
6	An End-to-End TextSpotter with Explicit Alignment and Attention. , 2018, , .		146
7	Evaluation and Comparison of Current Fetal Ultrasound Image Segmentation Methods for Biometric Measurements: A Grand Challenge. <i>IEEE Transactions on Medical Imaging</i> , 2014, 33, 797-813.	8.9	137
8	Knowledge Adaptation for Efficient Semantic Segmentation. , 2019, , .		127
9	Knowledge-based method for segmentation and analysis of lung boundaries in chest X-ray images. <i>Computerized Medical Imaging and Graphics</i> , 1998, 22, 463-477.	5.8	85
10	Circular shortest path in images. <i>Pattern Recognition</i> , 2003, 36, 709-719.	8.1	72
11	Fast linear feature detection using multiple directional non- ∞ maximum suppression. <i>Journal of Microscopy</i> , 2009, 234, 147-157.	1.8	63
12	Automated analysis of neurite branching in cultured cortical neurons using HCA- ∞ vision. <i>Cytometry Part A: the Journal of the International Society for Analytical Cytology</i> , 2007, 71A, 889-895.	1.5	62
13	Measuring the distance of vegetation from powerlines using stereo vision. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2006, 60, 269-283.	11.1	58
14	Cascade knowledge diffusion network for skin lesion diagnosis and segmentation. <i>Applied Soft Computing Journal</i> , 2021, 99, 106881.	7.2	57
15	Iterative infrared ship target segmentation based on multiple features. <i>Pattern Recognition</i> , 2014, 47, 2839-2852.	8.1	55
16	Recent advances on image edge detection: A comprehensive review. <i>Neurocomputing</i> , 2022, 503, 259-271.	5.9	55
17	Fast Reflectional Symmetry Detection Using Orientation Histograms. <i>Real Time Imaging</i> , 1999, 5, 63-74.	1.6	51
18	Symmetry detection using gradient information. <i>Pattern Recognition Letters</i> , 1995, 16, 987-996.	4.2	50

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19	Image dehazing using adaptive bi-channel priors on superpixels. Computer Vision and Image Understanding, 2017, 165, 17-32.	4.7	50
20	HCA-Vision: Automated Neurite Outgrowth Analysis. Journal of Biomolecular Screening, 2010, 15, 1165-1170.	2.6	46
21	Fast optical flow using 3D shortest path techniques. Image and Vision Computing, 2002, 20, 981-991.	4.5	45
22	ERL-Net: Entangled Representation Learning for Single Image De-Raining. , 2019, , .		45
23	Junction detection for linear structures based on Hessian, correlation and shape information. Pattern Recognition, 2012, 45, 3695-3706.	8.1	43
24	Mosaicing of microscope images with global geometric and radiometric corrections. Journal of Microscopy, 2006, 224, 158-165.	1.8	41
25	Circular shortest paths by branch and bound. Pattern Recognition, 2003, 36, 2513-2520.	8.1	39
26	Corner Detection Using Multi-directional Structure Tensor with Multiple Scales. International Journal of Computer Vision, 2020, 128, 438-459.	15.6	37
27	A new method for linear feature and junction enhancement in 2D images based on morphological operation, oriented anisotropic Gaussian function and Hessian information. Pattern Recognition, 2014, 47, 3193-3208.	8.1	35
28	Domain adaptation based self-correction model for COVID-19 infection segmentation in CT images. Expert Systems With Applications, 2021, 176, 114848.	7.6	34
29	Skew and slant correction for document images using gradient direction. , 0, , .		33
30	Discrete Curvature Representations for Noise Robust Image Corner Detection. IEEE Transactions on Image Processing, 2019, 28, 4444-4459.	9.8	33
31	Robust Retinal Image Enhancement via Dual-Tree Complex Wavelet Transform and Morphology-Based Method. IEEE Access, 2019, 7, 47303-47316.	4.2	32
32	Fog Density Estimation and Image Defogging Based on Surrogate Modeling for Optical Depth. IEEE Transactions on Image Processing, 2017, 26, 3397-3409.	9.8	29
33	Supervised Brain Tumor Segmentation Based on Gradient and Context-Sensitive Features. Frontiers in Neuroscience, 2019, 13, 144.	2.8	29
34	An energy minimisation approach to stereo-temporal dense reconstruction. , 2004, , .		28
35	Corner Detection Using Second-Order Generalized Gaussian Directional Derivative Representations. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, 43, 1213-1224.	13.9	27
36	Free-form tumor synthesis in computed tomography images via richer generative adversarial network. Knowledge-Based Systems, 2021, 218, 106753.	7.1	27

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37	Fusing convolutional neural network features with hand-crafted features for osteoporosis diagnoses. <i>Neurocomputing</i> , 2020, 385, 300-309.	5.9	26
38	Deep learning based HEP-2 image classification: A comprehensive review. <i>Medical Image Analysis</i> , 2020, 65, 101764.	11.6	26
39	Multiple paths extraction in images using a constrained expanded trellis. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2005, 27, 1923-1933.	13.9	25
40	Refinement of LiDAR point clouds using a super voxel based approach. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2018, 143, 213-221.	11.1	25
41	Feature matching in stereo images encouraging uniform spatial distribution. <i>Pattern Recognition</i> , 2015, 48, 2530-2542.	8.1	24
42	Detection of tubule boundaries based on circular shortest path and polarâ€ transformation of arbitrary shapes. <i>Journal of Microscopy</i> , 2016, 264, 127-142.	1.8	24
43	Segmentation of clustered nuclei based on concave curve expansion. <i>Journal of Microscopy</i> , 2013, 251, 57-67.	1.8	23
44	Multipoint Filtering with Local Polynomial Approximation and Range Guidance. , 2014, , .		23
45	Uncalibrated three-view image rectification. <i>Image and Vision Computing</i> , 2003, 21, 259-269.	4.5	22
46	Multi-Weighted Co-Occurrence Descriptor Encoding for Vein Recognition. <i>IEEE Transactions on Information Forensics and Security</i> , 2020, 15, 375-390.	6.9	22
47	Corner detection based on shearlet transform and multi-directional structure tensor. <i>Pattern Recognition</i> , 2020, 103, 107299.	8.1	20
48	Fast Panoramic Stereo Matching Using Cylindrical Maximum Surfaces. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 2004, 34, 760-765.	5.0	19
49	Context-Enhanced Representation Learning for Single Image Deraining. <i>International Journal of Computer Vision</i> , 2021, 129, 1650-1674.	15.6	19
50	Chord Bunch Walks for Recognizing Naturally Self-Overlapped and Compound Leaves. <i>IEEE Transactions on Image Processing</i> , 2019, 28, 5963-5976.	9.8	18
51	Design of a Clinical Decision Support System for Predicting Erectile Dysfunction in Men Using NHIRD Dataset. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2019, 23, 2127-2137.	6.3	18
52	De-interlacing of video images using a shortest path technique. <i>IEEE Transactions on Consumer Electronics</i> , 2001, 47, 225-230.	3.6	17
53	Thickness measurement and crease detection of wheat grains using stereo vision. <i>Pattern Recognition Letters</i> , 2007, 28, 1501-1508.	4.2	17
54	Infrared ship target segmentation through integration of multiple feature maps. <i>Image and Vision Computing</i> , 2016, 48-49, 14-25.	4.5	17

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55	Can Walking and Measuring Along Chord Bunches Better Describe Leaf Shapes?. , 2017, , .		17
56	Algorithm performance contest. , 0, , .		15
57	Cell Segmentation Based on FOPSO Combined With Shape Information Improved Intuitionistic FCM. IEEE Journal of Biomedical and Health Informatics, 2019, 23, 449-459.	6.3	15
58	Soft Cost Aggregation with Multi-resolution Fusion. Lecture Notes in Computer Science, 2014, , 17-32.	1.3	15
59	Efficient corner detection based on corner enhancement filters. , 2022, 122, 103364.		15
60	Membrane boundary extraction using circular multiple paths. Pattern Recognition, 2009, 42, 523-530.	8.1	14
61	Attentive Feature Refinement Network for Single Rainy Image Restoration. IEEE Transactions on Image Processing, 2021, 30, 3734-3747.	9.8	14
62	Cloud Based Toolbox for Image Analysis, Processing and Reconstruction Tasks. Advances in Experimental Medicine and Biology, 2015, 823, 191-205.	1.6	13
63	Fast Algorithm for Local Statistics Calculation for N -Dimensional Images. Real Time Imaging, 2001, 7, 519-527.	1.6	12
64	Iterated dynamic programming and quadtree subregioning for fast stereo matching. Image and Vision Computing, 2008, 26, 1371-1383.	4.5	12
65	Segmentation and tracking individual Pseudomonas aeruginosa bacteria in dense populations of motile cells. , 2009, , .		12
66	Segmentation of clustered nuclei based on curvature weighting. , 2012, , .		12
67	Instance-Aware Embedding for Point Cloud Instance Segmentation. Lecture Notes in Computer Science, 2020, , 255-270.	1.3	12
68	Touching Cells Splitting by Using Concave Points and Ellipse Fitting. , 2008, , .		11
69	Multi-Scale Anisotropic Gaussian Kernels for Image Edge Detection. IEEE Access, 2020, 8, 1803-1812.	4.2	11
70	DroplIT, an improved image analysis method for droplet identification in high-throughput crystallization trials. Journal of Applied Crystallography, 2010, 43, 1548-1552.	4.5	10
71	Semi-automated infrared simulation on real urban scenes based on multi-view images. Optics Express, 2016, 24, 11345.	3.4	10
72	A Novel Color-Texture Descriptor Based on Local Histograms for Image Segmentation. IEEE Access, 2019, 7, 160683-160695.	4.2	10

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73	Cascaded Attention Guidance Network for Single Rainy Image Restoration. IEEE Transactions on Image Processing, 2020, 29, 9190-9203.	9.8	10
74	A novel method for dendritic spines detection based on directional morphological filter and shortest path. Computerized Medical Imaging and Graphics, 2014, 38, 793-802.	5.8	9
75	A robust method for high-precision quantification of the complex three-dimensional vasculatures acquired by X-ray microtomography. Journal of Synchrotron Radiation, 2016, 23, 1216-1226.	2.4	9
76	Multi-Modal Ship Target Image Smoothing Based on Adaptive Mean Shift. IEEE Access, 2018, 6, 12573-12586.	4.2	9
77	Learning a Compact Vein Discrimination Model With GANerated Samples. IEEE Transactions on Information Forensics and Security, 2020, 15, 635-650.	6.9	9
78	Moving average algorithms for diamond, hexagon, and general polygonal shaped window operations. Pattern Recognition Letters, 2006, 27, 556-566.	4.2	8
79	Boundary extraction of linear features using dual paths through gradient profiles. Pattern Recognition Letters, 2008, 29, 1753-1757.	4.2	8
80	Global Threshold and Region-Based Active Contour Model for Accurate Image Segmentation. Signal and Image Processing: an International Journal, 2014, 5, 01-11.	0.3	8
81	Finding splitting lines for touching cell nuclei with a shortest path algorithm. Computers in Biology and Medicine, 2015, 63, 277-286.	7.0	8
82	Robust Multi-Frame Adaptive Optics Image Restoration Algorithm Using Maximum Likelihood Estimation with Poisson Statistics. Sensors, 2017, 17, 785.	3.8	8
83	EOCSA: Predicting prognosis of Epithelial ovarian cancer with whole slide histopathological images. Expert Systems With Applications, 2022, 206, 117643.	7.6	8
84	Fast recovery of rotational symmetry parameters using gradient orientation. Optical Engineering, 1997, 36, 1073.	1.0	7
85	Fast Linear Feature Detection Using Multiple Directional Non-Maximum Suppression. , 2006, , .		7
86	Embedded Voxel Colouring with Adaptive Threshold Selection Using Globally Minimal Surfaces. International Journal of Computer Vision, 2012, 99, 215-231.	15.6	7
87	A Modular Learning Approach for Fish Counting and Measurement Using Stereo Baited Remote Underwater Video. , 2014, , .		7
88	Stereo matching using cost volume watershed and region merging. Signal Processing: Image Communication, 2014, 29, 1232-1244.	3.2	7
89	ReDro: Efficiently Learning Large-Sized SPD Visual Representation. Lecture Notes in Computer Science, 2020, , 1-17.	1.3	7
90	Linear Feature Detection on GPUs. , 2010, , .		6

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91	Automatic nuclear bud detection using ellipse fitting, moving sticks or topôhat transformation. Journal of Microscopy, 2013, 252, 122-134.	1.8	6
92	Automatic Fish Recognition and Counting in Video Footage of Fishery Operations. , 2015, , .		6
93	Clustered nuclei splitting via curvature information and grayâ€scale distance transform. Journal of Microscopy, 2015, 259, 36-52.	1.8	6
94	Automated Image Analysis on Insect Soups. , 2016, , .		6
95	Robust Tensor Decomposition for Image Representation Based on Generalized Correntropy. IEEE Transactions on Image Processing, 2021, 30, 150-162.	9.8	6
96	Robust Blood Cell Image Segmentation Method Based on Neural Ordinary Differential Equations. Computational and Mathematical Methods in Medicine, 2021, 2021, 1-11.	1.3	6
97	Closed-form stereo image rectification. , 2012, , .		5
98	Edge-Aware Filtering with Local Polynomial Approximation and Rectangle-Based Weighting. IEEE Transactions on Cybernetics, 2016, 46, 2693-2705.	9.5	5
99	Guided image completion by confidence propagation. Pattern Recognition, 2016, 50, 210-222.	8.1	5
100	Improving Monocular Visual Odometry Using Learned Depth. IEEE Transactions on Robotics, 2022, 38, 3173-3186.	10.3	5
101	Applications of heterogeneous computing in computational and simulation science. International Journal of Computational Science and Engineering, 2013, 8, 240.	0.5	4
102	Stereo matching based on multi-direction polynomial model. Signal Processing: Image Communication, 2016, 44, 44-56.	3.2	4
103	Mutual Guidance-Based Saliency Propagation for Infrared Pedestrian Images. IEEE Access, 2019, 7, 113355-113371.	4.2	4
104	A robust matching pursuit algorithm using information theoretic learning. Pattern Recognition, 2020, 107, 107415.	8.1	4
105	Fast Corner Detection Using Approximate Form of Second-Order Gaussian Directional Derivative. IEEE Access, 2020, 8, 194092-194104.	4.2	4
106	2-Point linear algorithm for camera translation vector estimation with known rotation. Robotica, 2000, 18, 557-561.	1.9	3
107	Detection of Nuclear Buds Based on Ellipse Fitting. , 2010, , .		3
108	Applications of Heterogeneous Computing in Computational and Simulation Science. , 2011, , .		3

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109	A Modified Distance Regularized Level Set Model for Liver Segmentation from CT Images. Signal and Image Processing: an International Journal, 2015, 6, 01-11.	0.3	3
110	Descent image based landing area terrain reconstruction technology for lunar landing mission. Imaging Science Journal, 2015, 63, 440-446.	0.5	3
111	Automated vein detection for drill core analysis by fusion of hyperspectral and visible image data. , 2016, , .		3
112	STEREO VISION TECHNOLOGIES FOR CHINA'S LUNAR ROVER EXPLORATION MISSION. International Journal of Robotics and Automation, 2016, 31, .	0.1	3
113	Use of vision in dispensing control and inspection of adhesives. Robotica, 1991, 9, 371-377.	1.9	2
114	Rectangular subregioning and 3-D maximum-surface techniques for fast stereo matching. , 0, , .		2
115	Membrane Boundary Extraction Using a Circular Shortest Path Technique. AIP Conference Proceedings, 2007, , .	0.4	2
116	Priority-Based Path Growing for Linear Feature Detection. , 2007, , .		2
117	Automated Feature Weighting in Fuzzy Declustering-based Vector Quantization. , 2010, , .		2
118	Automating the quantification of membrane proteins under confocal microscopy. , 2012, , .		2
119	Linear feature enhancement based on morphological operation and Gabor function. , 2012, , .		2
120	Feature Correspondence with Even Distribution. , 2012, , .		2
121	Shortest path based splitting line finding for touching cells. AIP Conference Proceedings, 2013, , .	0.4	2
122	Robust tensor factorization using maximum correntropy criterion. , 2016, , .		2
123	A Novel Decision Mechanism for Image Edge Detection. Lecture Notes in Computer Science, 2021, , 274-287.	1.3	2
124	Towards Automated Quantitative Vasculature Understanding via Ultra High-Resolution Imagery. Advances in Experimental Medicine and Biology, 2015, 823, 177-189.	1.6	2
125	Robust Cell Image Segmentation via Improved Markov Random Field Based on a Chinese Restaurant Process Model. Journal of Advanced Computational Intelligence and Intelligent Informatics, 2020, 24, 963-971.	0.9	2
126	Complex shearlets and rotary phase congruence tensor for corner detection. Pattern Recognition, 2022, 128, 108606.	8.1	2

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127	Automatic segmentation of fiducial marks using attribute-based mathematical morphology. Journal of Electronic Imaging, 2001, 10, 560.	0.9	1
128	High-Throughput Detection of Linear Features: Selected Applications in Biological Imaging. Biological and Medical Physics Series, 2011, , 167-191.	0.4	1
129	Clustered Nuclei Splitting Using Curvature Information. , 2011, , .		1
130	Identifying Weak Linear Features with the "Coalescing Shortest Path Image Transform" Microscopy and Microanalysis, 2011, 17, 911-914.	0.4	1
131	Junction Detection for Linear Structures. , 2011, , .		1
132	Tree structural watershed for stereo matching. , 2012, , .		1
133	Cross Image Inference Scheme for Stereo Matching. Lecture Notes in Computer Science, 2013, , 217-230.	1.3	1
134	Tubule detection in testis images using boundary weighting and circular shortest path. , 2013, 2013, 3319-22.		1
135	Trinocular stereo image rectification in closed-form only using fundamental matrices. , 2013, , .		1
136	Intelligent tuna recognition for fisheries monitoring. , 2015, , .		1
137	Orientation-guided geodesic weighting for PatchMatch-based stereo matching. Information Sciences, 2016, 334-335, 293-306.	6.9	1
138	Kernel Mean P Power Error Loss for Robust Two-Dimensional Singular Value Decomposition. , 2019, , .		1
139	Robust Sparse Learning Based on Kernel Non-Second Order Minimization. , 2019, , .		1
140	Fish Counting and Measurement. Advances in Environmental Engineering and Green Technologies Book Series, 0, , 41-57.	0.4	1
141	Disentangled Representation Learning and Enhancement Network for Single Image De-Raining. , 2021, , .		1
142	A Novel Global Threshold-Based Active Contour Model. , 2014, , .		1
143	ASRSNet: Automatic Salient Region Selection Network for "Few-Shot Fine-Grained Image Classification. Lecture Notes in Computer Science, 2022, , 627-638.	1.3	1
144	Relationship between hovering depth and viewing position. , 1992, 1666, 483.		0

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145	Stereoscopic flatbed scanner. Journal of Electronic Imaging, 2009, 18, 013002.	0.9	0
146	Automated Detection of Nucleoplasmic Bridges for DNA Damage Scoring in Binucleated Cells. , 2010, , .		0
147	Mosaicing of microscope images in the presence of large areas with insufficient information content. , 2010, , .		0
148	Dendritic spines detection based on directional morphological filter and shortest path. , 2012, 2012, 5343-6.		0
149	Preface: 2013 International Symposium on Computational Models for Life Sciences. , 2013, , .		0
150	A Local Scale Selection Scheme for Multiscale Area Integral Invariants. , 2016, , .		0
151	Efficient Message Passing Methods With Fully Connected Models for Early Vision. IEEE Transactions on Image Processing, 2017, 26, 5994-6005.	9.8	0
152	Matching Pursuit Based on Kernel Non-Second Order Minimization. , 2018, , .		0
153	Robust Estimation for Motion Parameters. , 1994, , .		0
154	Fish Counting and Measurement. , 2018, , 1500-1516.		0
155	Disparity-based Error Concealment for Stereoscopic Images with Superpixel Segment. KSII Transactions on Internet and Information Systems, 2018, 12, .	0.3	0
156	Foreground Object Image Masking via EPI and Edge Detection for Photogrammetry with Static Background. Lecture Notes in Computer Science, 2019, , 345-357.	1.3	0
157	Deep learning based stereo cost aggregation on a small dataset. , 2021, , .		0