

Daniel Cremers

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

174
papers

11,899
citations

51
h-index

107
g-index

181
ext. papers

15,152
ext. citations

4.5
avg, IF

7.03
L-index

#	Paper	IF	Citations
174	A benchmark for the evaluation of RGB-D SLAM systems 2012 ,		1234
173	Direct Sparse Odometry. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2018 , 40, 611-625	5.3	831
172	LSD-SLAM: Large-Scale Direct Monocular SLAM. <i>Lecture Notes in Computer Science</i> , 2014 , 834-849	0.9	827
171	A Review of Statistical Approaches to Level Set Segmentation: Integrating Color, Texture, Motion and Shape. <i>International Journal of Computer Vision</i> , 2007 , 72, 195-215	10.6	698
170	Dense visual SLAM for RGB-D cameras 2013 ,		351
169	An evaluation of the RGB-D SLAM system 2012 ,		345
168	One-Shot Video Object Segmentation 2017 ,		333
167	The wave kernel signature: A quantum mechanical approach to shape analysis 2011 ,		295
166	Robust odometry estimation for RGB-D cameras 2013 ,		287
165	Kernel Density Estimation and Intrinsic Alignment for Shape Priors in Level Set Segmentation. <i>International Journal of Computer Vision</i> , 2006 , 69, 335-351	10.6	258
164	Diffusion Snakes: Introducing Statistical Shape Knowledge into the Mumford-Shah Functional. <i>International Journal of Computer Vision</i> , 2002 , 50, 295-313	10.6	218
163	Dynamical statistical shape priors for level set-based tracking. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2006 , 28, 1262-73	13.3	213
162	Anisotropic Huber-L1 Optical Flow 2009 ,		212
161	Large-scale direct SLAM with stereo cameras 2015 ,		208
160	Motion Competition: A Variational Approach to Piecewise Parametric Motion Segmentation. <i>International Journal of Computer Vision</i> , 2005 , 62, 249-265	10.6	186
159	Camera-based navigation of a low-cost quadcopter 2012 ,		179
158	Efficient nonlocal means for denoising of textural patterns. <i>IEEE Transactions on Image Processing</i> , 2008 , 17, 1083-92	8.7	163

157	Shape statistics in kernel space for variational image segmentation. <i>Pattern Recognition</i> , 2003 , 36, 1929-1943	17.43	163
156	Real-time visual odometry from dense RGB-D images 2011 ,		161
155	q-Space Deep Learning: Twelve-Fold Shorter and Model-Free Diffusion MRI Scans. <i>IEEE Transactions on Medical Imaging</i> , 2016 , 35, 1344-1351	11.7	158
154	An algorithm for minimizing the Mumford-Shah functional 2009 ,		149
153	Scale-aware navigation of a low-cost quadcopter with a monocular camera. <i>Robotics and Autonomous Systems</i> , 2014 , 62, 1646-1656	3.5	133
152	A convex relaxation approach for computing minimal partitions 2009 ,		133
151	Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis Screening and Visualization. <i>Scientific Reports</i> , 2019 , 9, 6268	4.9	124
150	A Convex Approach to Minimal Partitions. <i>SIAM Journal on Imaging Sciences</i> , 2012 , 5, 1113-1158	1.9	117
149	Stereoscopic Scene Flow Computation for 3D Motion Understanding. <i>International Journal of Computer Vision</i> , 2011 , 95, 29-51	10.6	113
148	Continuous Global Optimization in Multiview 3D Reconstruction. <i>International Journal of Computer Vision</i> , 2009 , 84, 80-96	10.6	105
147	Direct visual-inertial odometry with stereo cameras 2016 ,		104
146	Video Object Segmentation without Temporal Information. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2019 , 41, 1515-1530	13.3	103
145	Global Solutions of Variational Models with Convex Regularization. <i>SIAM Journal on Imaging Sciences</i> , 2010 , 3, 1122-1145	1.9	102
144	Partial Functional Correspondence. <i>Computer Graphics Forum</i> , 2017 , 36, 222-236	2.4	99
143	Combined region and motion-based 3D tracking of rigid and articulated objects. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2010 , 32, 402-15	13.3	93
142	LDSO: Direct Sparse Odometry with Loop Closure 2018 ,		89
141	The Natural Vectorial Total Variation Which Arises from Geometric Measure Theory. <i>SIAM Journal on Imaging Sciences</i> , 2012 , 5, 537-563	1.9	85
140	On Local Region Models and a Statistical Interpretation of the Piecewise Smooth Mumford-Shah Functional. <i>International Journal of Computer Vision</i> , 2009 , 84, 184-193	10.6	83

139	Dense Non-rigid Shape Correspondence Using Random Forests 2014 ,		78
138	Volumetric 3D mapping in real-time on a CPU 2014 ,		76
137	A Multiphase Dynamic Labeling Model for Variational Recognition-driven Image Segmentation. <i>International Journal of Computer Vision</i> , 2006 , 66, 67-81	10.6	76
136	Anisotropic Diffusion Descriptors. <i>Computer Graphics Forum</i> , 2016 , 35, 431-441	2.4	75
135	What Makes Good Synthetic Training Data for Learning Disparity and Optical Flow Estimation?. <i>International Journal of Computer Vision</i> , 2018 , 126, 942-960	10.6	71
134	B-Spline Modeling of Road Surfaces With an Application to Free-Space Estimation. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2009 , 10, 572-583	6.1	69
133	Fusion of Head and Full-Body Detectors for Multi-object Tracking 2018 ,		69
132	A Convex Formulation of Continuous Multi-label Problems. <i>Lecture Notes in Computer Science</i> , 2008 , 792-805	0.9	67
131	Multiview stereo and silhouette consistency via convex functionals over convex domains. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2011 , 33, 1161-74	13.3	64
130	CPA-SLAM: Consistent plane-model alignment for direct RGB-D SLAM 2016 ,		63
129	StaticFusion: Background Reconstruction for Dense RGB-D SLAM in Dynamic Environments 2018 ,		60
128	Direct Sparse Visual-Inertial Odometry Using Dynamic Marginalization 2018 ,		58
127	A primal-dual framework for real-time dense RGB-D scene flow 2015 ,		57
126	Variational Depth From Focus Reconstruction. <i>IEEE Transactions on Image Processing</i> , 2015 , 24, 5369-78	8.7	54
125	Spectral Decompositions Using One-Homogeneous Functionals. <i>SIAM Journal on Imaging Sciences</i> , 2016 , 9, 1374-1408	1.9	53
124	Challenges in Monocular Visual Odometry: Photometric Calibration, Motion Bias, and Rolling Shutter Effect. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 2878-2885	4.2	51
123	Fast joint estimation of silhouettes and dense 3D geometry from multiple images. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2012 , 34, 493-505	13.3	50
122	Radiomics in radiooncology - Challenging the medical physicist. <i>Physica Medica</i> , 2018 , 48, 27-36	2.7	49

121	Multi-view deep learning for consistent semantic mapping with RGB-D cameras 2017 ,		48
120	Non-Rigid Puzzles. <i>Computer Graphics Forum</i> , 2016 , 35, 135-143	2.4	46
119	DeepWrinkles: Accurate and Realistic Clothing Modeling. <i>Lecture Notes in Computer Science</i> , 2018 , 698-715		46
118	Intrinsic3D: High-Quality 3D Reconstruction by Joint Appearance and Geometry Optimization with Spatially-Varying Lighting 2017 ,		45
117	Real-time human motion tracking using multiple depth cameras 2012 ,		44
116	Spatially varying color distributions for interactive multilabel segmentation. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2013 , 35, 1234-47	13.3	42
115	A Linear Framework for Region-Based Image Segmentation and Inpainting Involving Curvature Penalization. <i>International Journal of Computer Vision</i> , 2012 , 99, 53-68	10.6	41
114	Field phenotyping of grapevine growth using dense stereo reconstruction. <i>BMC Bioinformatics</i> , 2015 , 16, 143	3.6	36
113	Total Variation Regularization for Functions with Values in a Manifold 2013 ,		36
112	Duality TV-L1 flow with fundamental matrix prior 2008 ,		36
111	3-D Reconstruction of Shaded Objects from Multiple Images Under Unknown Illumination. <i>International Journal of Computer Vision</i> , 2008 , 76, 245-256	10.6	36
110	Statistical shape knowledge in variational motion segmentation. <i>Image and Vision Computing</i> , 2003 , 21, 77-86	3.7	36
109	A Super-Resolution Framework for High-Accuracy Multiview Reconstruction. <i>International Journal of Computer Vision</i> , 2014 , 106, 172-191	10.6	35
108	Large displacement optical flow computation without warping 2009 ,		35
107	A generalized framework for opening doors and drawers in kitchen environments 2012 ,		35
106	Collaborative Total Variation: A General Framework for Vectorial TV Models. <i>SIAM Journal on Imaging Sciences</i> , 2016 , 9, 116-151	1.9	34
105	Omnidirectional DSO: Direct Sparse Odometry With Fisheye Cameras. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 3693-3700	4.2	34
104	A Survey and Comparison of Discrete and Continuous Multi-label Optimization Approaches for the Potts Model. <i>International Journal of Computer Vision</i> , 2013 , 104, 223-240	10.6	34

103	Total Cyclic Variation and Generalizations. <i>Journal of Mathematical Imaging and Vision</i> , 2013 , 47, 258-277.6	33
102	Online Photometric Calibration of Auto Exposure Video for Realtime Visual Odometry and SLAM. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 627-634	4.2 32
101	Superresolution texture maps for multiview reconstruction 2009 ,	31
100	Fast Matching of Planar Shapes in Sub-cubic Runtime 2007 ,	30
99	Globally Optimal Image Segmentation with an Elastic Shape Prior 2007 ,	30
98	LED-Based Photometric Stereo: Modeling, Calibration and Numerical Solution. <i>Journal of Mathematical Imaging and Vision</i> , 2018 , 60, 313-340	1.6 29
97	MOTChallenge: A Benchmark for Single-Camera Multiple Target Tracking. <i>International Journal of Computer Vision</i> , 2021 , 129, 845-881	10.6 29
96	The Primal-Dual Hybrid Gradient Method for Semiconvex Splittings. <i>SIAM Journal on Imaging Sciences</i> , 2015 , 8, 827-857	1.9 28
95	A Non-convex Variational Approach to Photometric Stereo under Inaccurate Lighting 2017 ,	28
94	Generalized ordering constraints for multilabel optimization 2011 ,	28
93	Nonlinear Dynamical Shape Priors for Level Set Segmentation. <i>Journal of Scientific Computing</i> , 2008 , 35, 132-143	2.3 26
92	Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional. <i>Lecture Notes in Computer Science</i> , 2014 , 127-141	0.9 25
91	Elastic Net Constraints for Shape Matching 2013 ,	25
90	The elastic ratio: introducing curvature into ratio-based image segmentation. <i>IEEE Transactions on Image Processing</i> , 2011 , 20, 2565-81	8.7 25
89	Consistent Partial Matching of Shape Collections via Sparse Modeling. <i>Computer Graphics Forum</i> , 2017 , 36, 209-221	2.4 24
88	Efficient planar graph cuts with applications in Computer Vision 2009 ,	24
87	A Region-Based Gauss-Newton Approach to Real-Time Monocular Multiple Object Tracking. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2019 , 41, 1797-1812	13.3 24
86	Fight Ill-Posedness with Ill-Posedness: Single-shot Variational Depth Super-Resolution from Shading 2018 ,	22

85	Tight Convex Relaxations for Vector-Valued Labeling. <i>SIAM Journal on Imaging Sciences</i> , 2013 , 6, 1626-1664	6.4	21
84	High resolution motion layer decomposition using dual-space graph cuts 2008 ,		20
83	Robust Region Detection via Consensus Segmentation of Deformable Shapes. <i>Computer Graphics Forum</i> , 2014 , 33, 97-106	2.4	19
82	A simple and effective relevance-based point sampling for 3D shapes. <i>Pattern Recognition Letters</i> , 2015 , 59, 41-47	4.7	17
81	Image segmentation with one shape prior via a template-based formulation. <i>Image and Vision Computing</i> , 2012 , 30, 1032-1042	3.7	17
80	Fast and exact solution of Total Variation models on the GPU 2008 ,		17
79	Generalized Connectivity Constraints for Spatio-temporal 3D Reconstruction. <i>Lecture Notes in Computer Science</i> , 2014 , 32-46	0.9	17
78	GN-Net: The Gauss-Newton Loss for Multi-Weather Relocalization. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 890-897	4.2	16
77	Super-resolution Keyframe Fusion for 3D Modeling with High-Quality Textures 2015 ,		16
76	Convex Relaxation of Vectorial Problems with Coupled Regularization. <i>SIAM Journal on Imaging Sciences</i> , 2014 , 7, 294-336	1.9	16
75	Introducing Curvature into Globally Optimal Image Segmentation: Minimum Ratio Cycles on Product Graphs 2007 ,		16
74	Anisotropic Minimal Surfaces Integrating Photoconsistency and Normal Information for Multiview Stereo. <i>Lecture Notes in Computer Science</i> , 2010 , 538-551	0.9	16
73	Tight convex relaxations for vector-valued labeling problems 2011 ,		15
72	From monocular SLAM to autonomous drone exploration 2017 ,		14
71	Realistic photometric stereo using partial differential irradiance equation ratios. <i>Computers and Graphics</i> , 2015 , 51, 8-16	1.8	14
70	Large-Scale Integer Linear Programming for Orientation Preserving 3D Shape Matching. <i>Computer Graphics Forum</i> , 2011 , 30, 1471-1480	2.4	14
69	. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2015 , 51, 575-590	3.7	13
68	De-noising, stabilizing and completing 3D reconstructions on-the-go using plane priors 2017 ,		13

67	Depth Super-Resolution Meets Uncalibrated Photometric Stereo 2017 ,		12
66	Total variation for cyclic structures: Convex relaxation and efficient minimization 2011 ,		12
65	Globally optimal shape-based tracking in real-time 2008 ,		12
64	Automatic image-based determination of pruning mass as a determinant for yield potential in grapevine management and breeding. <i>Australian Journal of Grape and Wine Research</i> , 2017 , 23, 120-124 ^{2.4}		11
63	Nonlinear Dynamical Shape Priors for Level Set Segmentation 2007 ,		11
62	Continuous Global Optimization in Multiview 3D Reconstruction. <i>Lecture Notes in Computer Science</i> , 2007 , 441-452	0.9	11
61	Regularized Pointwise Map Recovery from Functional Correspondence. <i>Computer Graphics Forum</i> , 2017 , 36, 700-711	2.4	10
60	A Convex Relaxation Approach to Space Time Multi-view 3D Reconstruction 2013 ,		10
59	Relative Volume Constraints for Single View 3D Reconstruction 2013 ,		10
58	Traveling waves of excitation in neural field models: equivalence of rate descriptions and integrate-and-fire dynamics. <i>Neural Computation</i> , 2002 , 14, 1651-67	2.9	10
57	Adopting an unconstrained ray model in light-field cameras for 3D shape reconstruction 2015 ,		9
56	Depth-adaptive supervoxels for RGB-D video segmentation 2013 ,		9
55	Matching non-rigidly deformable shapes across images: A globally optimal solution 2008 ,		9
54	Semi-calibrated Near-Light Photometric Stereo. <i>Lecture Notes in Computer Science</i> , 2017 , 656-668	0.9	9
53	Divergence-Free Shape Correspondence by Deformation. <i>Computer Graphics Forum</i> , 2019 , 38, 1-12	2.4	8
52	Proximity Priors for Variational Semantic Segmentation and Recognition 2013 ,		8
51	. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2014 , 50, 1660-1672	3.7	8
50	Decoupling photometry and geometry in dense variational camera calibration 2011 ,		8

49	Flow equations for the Hénon-Heiles Hamiltonian. <i>Physica D: Nonlinear Phenomena</i> , 1999 , 126, 123-135	3.3	7
48	Efficient planar graph cuts with applications in Computer Vision		7
47	Rolling-Shutter Modelling for Direct Visual-Inertial Odometry 2019 ,		7
46	Photometric Depth Super-Resolution. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2020 , 42, 2453-2464	13.3	7
45	Stream-based Active Learning for efficient and adaptive classification of 3D objects 2016 ,		6
44	Proportion Priors for Image Sequence Segmentation 2013 ,		6
43	Continuous ratio optimization via convex relaxation with applications to multiview 3D reconstruction 2009 ,		6
42	Beyond connecting the dots: A polynomial-time algorithm for segmentation and boundary estimation with imprecise user input 2009 ,		6
41	Multi-object tracking via high accuracy optical flow and finite set statistics 2011 ,		6
40	A Noninvasive 3D Body Scanner and Software Tool towards Analysis of Scoliosis. <i>BioMed Research International</i> , 2019 , 2019, 4715720	3	5
39	Map-based drone homing using shortcuts 2017 ,		5
38	NeuroMorph: Unsupervised Shape Interpolation and Correspondence in One Go 2021 ,		5
37	DM-VIO: Delayed Marginalization Visual-Inertial Odometry. <i>IEEE Robotics and Automation Letters</i> , 2022 , 7, 1408-1415	4.2	5
36	Trajectory prediction for intelligent vehicles using spatial-attention mechanism. <i>IET Intelligent Transport Systems</i> , 2020 , 14, 1855-1863	2.4	5
35	Intrinsic Mean for Semi-metric Shape Retrieval Via Graph Cuts 2007 , 446-455		5
34	Variational Reflectance Estimation from Multi-view Images. <i>Journal of Mathematical Imaging and Vision</i> , 2018 , 60, 1527-1546	1.6	4
33	Active online confidence boosting for efficient object classification 2015 ,		4
32	Passive multi-object localization and tracking using bearing data 2010 ,		4

31	Real-time variational stereo reconstruction with applications to large-scale dense SLAM 2017 ,		3
30	Nonmetric Priors for Continuous Multilabel Optimization. <i>Lecture Notes in Computer Science</i> , 2012 , 208-224		3
29	A Co-occurrence Prior for Continuous Multi-label Optimization. <i>Lecture Notes in Computer Science</i> , 2013 , 209-222	0.9	3
28	Inferring Super-Resolution Depth from a Moving Light-Source Enhanced RGB-D Sensor: A Variational Approach 2020 ,		3
27	Midrange Geometric Interactions for Semantic Segmentation. <i>International Journal of Computer Vision</i> , 2016 , 117, 199-225	10.6	2
26	The Role of Diffusion in Figure Hunt Games. <i>Journal of Mathematical Imaging and Vision</i> , 2015 , 52, 108-123		2
25	Bregman Proximal Mappings and Bregman-Moreau Envelopes Under Relative Prox-Regularity. <i>Journal of Optimization Theory and Applications</i> , 2020 , 184, 724-761	1.6	2
24	Convex Optimization for Scene Understanding 2013 ,		2
23	Semi-supervised online learning for efficient classification of objects in 3D data streams 2015 ,		2
22	Optimal solutions for semantic image decomposition. <i>Image and Vision Computing</i> , 2012 , 30, 476-477	3.7	2
21	Nonparametric Priors on the Space of Joint Intensity Distributions for Non-Rigid Multi-Modal Image Registration		
20	Unsupervised Dense Shape Correspondence using Heat Kernels 2020 ,		2
19	Continuous ratio optimization via convex relaxation with applications to multiview 3D reconstruction		2
18	Hamiltonian Dynamics for Real-World Shape Interpolation. <i>Lecture Notes in Computer Science</i> , 2020 , 179-196		2
17	Efficient Convex Optimization for Minimal Partition Problems with Volume Constraints. <i>Lecture Notes in Computer Science</i> , 2013 , 94-107	0.9	2
16	From Planes to Corners: Multi-Purpose Primitive Detection in Unorganized 3D Point Clouds. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 1764-1771	4.2	1
15	Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing 2017 ,		1
14	Evaluation of a Nonrigid Motion Compensation Technique Based on Spatiotemporal Features for Small Lesion Detection in Breast MRI. <i>Advances in Artificial Neural Systems</i> , 2012 , 2012, 1-10		1

13	Multiple source localization based on biased bearings using the intensity filter - approach and experimental results 2011 ,			1
12	A variational approach to vesicle membrane reconstruction from fluorescence imaging. <i>Pattern Recognition</i> , 2011 , 44, 2944-2958	7.7		1
11	Statistical shape priors for level set segmentation. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2007 , 7, 1041903-1041904	0.2		1
10	On the Well-Posedness of Uncalibrated Photometric Stereo Under General Lighting. <i>Advances in Computer Vision and Pattern Recognition</i> , 2020 , 147-176	1.1		1
9	Lifting Methods for Manifold-Valued Variational Problems 2020 , 95-119			1
8	Holistic Image Reconstruction for Diffusion MRI. <i>Mathematics and Visualization</i> , 2016 , 27-39	0.6		1
7	Accelerating in vivo fast spin echo high angular resolution diffusion imaging with an isotropic resolution in mice through compressed sensing. <i>Magnetic Resonance in Medicine</i> , 2021 , 85, 1397-1413	4.4		1
6	Incremental Semi-Supervised Learning from Streams for Object Classification 2018 ,			1
5	Sublabel-Accurate Multilabeling Meets Product Label Spaces. <i>Lecture Notes in Computer Science</i> , 2021 , 3-17	0.9		0
4	Computer Vision ff 3-D-Rekonstruktion. <i>Informatik-Spektrum</i> , 2017 , 40, 205-209	0.3		
3	Sequential Convex Programming for Computing Information-Theoretic Minimal Partitions: Nonconvex Nonsmooth Optimization. <i>SIAM Journal on Imaging Sciences</i> , 2017 , 10, 1845-1877	1.9		
2	Entropy Minimization for Groupwise Planar Shape Co-alignment and its Applications. <i>IEEE Signal Processing Letters</i> , 2015 , 22, 1922-1926	3.2		
1	Partial Single- and Multishape Dense Correspondence Using Functional Maps. <i>Handbook of Numerical Analysis</i> , 2018 , 19, 55-90			1