Daniel Cremers

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3870266/publications.pdf

Version: 2024-02-01

		61945	36008
177	18,138	43	97
papers	citations	h-index	g-index

181	181	181	10234
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A benchmark for the evaluation of RGB-D SLAM systems. , 2012, , .		2,188
2	Direct Sparse Odometry. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2018, 40, 611-625.	9.7	1,600
3	LSD-SLAM: Large-Scale Direct Monocular SLAM. Lecture Notes in Computer Science, 2014, , 834-849.	1.0	1,571
4	A Review of Statistical Approaches to Level Set Segmentation: Integrating Color, Texture, Motion and Shape. International Journal of Computer Vision, 2007, 72, 195-215.	10.9	894
5	Dense visual SLAM for RGB-D cameras. , 2013, , .		557
6	One-Shot Video Object Segmentation. , 2017, , .		543
7	An evaluation of the RGB-D SLAM system. , 2012, , .		493
8	The wave kernel signature: A quantum mechanical approach to shape analysis. , 2011, , .		458
9	Robust odometry estimation for RGB-D cameras. , 2013, , .		388
10	Large-scale direct SLAM with stereo cameras. , 2015, , .		343
11	Kernel Density Estimation and Intrinsic Alignment for Shape Priors in Level Set Segmentation. International Journal of Computer Vision, 2006, 69, 335-351.	10.9	311
12	Anisotropic Huber-L1 Optical Flow. , 2009, , .		261
13	Dynamical statistical shape priors for level set-based tracking. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2006, 28, 1262-1273.	9.7	254
14	Diffusion Snakes: Introducing Statistical Shape Knowledge into the Mumford-Shah Functional. International Journal of Computer Vision, 2002, 50, 295-313.	10.9	253
15	Real-time visual odometry from dense RGB-D images. , 2011, , .		238
16	Camera-based navigation of a low-cost quadrocopter. , 2012, , .		238
17	Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis Screening and Visualization. Scientific Reports, 2019, 9, 6268.	1.6	232
18	Motion Competition: A Variational Approach to Piecewise Parametric Motion Segmentation. International Journal of Computer Vision, 2005, 62, 249-265.	10.9	214

#	Article	IF	Citations
19	q-Space Deep Learning: Twelve-Fold Shorter and Model-Free Diffusion MRI Scans. IEEE Transactions on Medical Imaging, 2016, 35, 1344-1351.	5.4	213
20	Efficient Nonlocal Means for Denoising of Textural Patterns. IEEE Transactions on Image Processing, 2008, 17, 1083-1092.	6.0	204
21	An algorithm for minimizing the Mumford-Shah functional. , 2009, , .		196
22	Video Object Segmentation without Temporal Information. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2019, 41, 1515-1530.	9.7	195
23	Shape statistics in kernel space for variational image segmentation. Pattern Recognition, 2003, 36, 1929-1943.	5.1	192
24	LDSO: Direct Sparse Odometry with Loop Closure. , 2018, , .		175
25	Scale-aware navigation of a low-cost quadrocopter with a monocular camera. Robotics and Autonomous Systems, 2014, 62, 1646-1656.	3.0	172
26	A convex relaxation approach for computing minimal partitions. , 2009, , .		165
27	Direct visual-inertial odometry with stereo cameras. , 2016, , .		148
28	Partial Functional Correspondence. Computer Graphics Forum, 2017, 36, 222-236.	1.8	147
29	Stereoscopic Scene Flow Computation for 3D Motion Understanding. International Journal of Computer Vision, 2011, 95, 29-51.	10.9	140
30	MOTChallenge: A Benchmark for Single-Camera Multiple Target Tracking. International Journal of Computer Vision, 2021, 129, 845-881.	10.9	139
31	A Convex Approach to Minimal Partitions. SIAM Journal on Imaging Sciences, 2012, 5, 1113-1158.	1.3	133
32	Direct Sparse Visual-Inertial Odometry Using Dynamic Marginalization. , 2018, , .		125
33	Global Solutions of Variational Models with Convex Regularization. SIAM Journal on Imaging Sciences, 2010, 3, 1122-1145.	1.3	124
34	Continuous Global Optimization in Multiview 3D Reconstruction. International Journal of Computer Vision, 2009, 84, 80-96.	10.9	123
35	What Makes Good Synthetic Training Data for Learning Disparity and Optical Flow Estimation?. International Journal of Computer Vision, 2018, 126, 942-960.	10.9	122
36	StaticFusion: Background Reconstruction for Dense RGB-D SLAM in Dynamic Environments. , 2018, , .		117

#	Article	IF	Citations
37	Combined Region and Motion-Based 3D Tracking of Rigid and Articulated Objects. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2010, 32, 402-415.	9.7	113
38	Volumetric 3D mapping in real-time on a CPU. , 2014, , .		110
39	CPA-SLAM: Consistent plane-model alignment for direct RGB-D SLAM. , 2016, , .		103
40	A Convex Formulation of Continuous Multi-label Problems. Lecture Notes in Computer Science, 2008, , 792-805.	1.0	102
41	Dense Non-rigid Shape Correspondence Using Random Forests. , 2014, , .		102
42	On Local Region Models and a Statistical Interpretation ofÂtheÂPiecewise Smooth Mumford-Shah Functional. International Journal of Computer Vision, 2009, 84, 184-193.	10.9	101
43	Fusion of Head and Full-Body Detectors for Multi-object Tracking. , 2018, , .		100
44	The Natural Vectorial Total Variation Which Arises from Geometric Measure Theory. SIAM Journal on Imaging Sciences, 2012, 5, 537-563.	1.3	98
45	Anisotropic Diffusion Descriptors. Computer Graphics Forum, 2016, 35, 431-441.	1.8	94
46	DeepWrinkles: Accurate and Realistic Clothing Modeling. Lecture Notes in Computer Science, 2018, , 698-715.	1.0	92
47	A Multiphase Dynamic Labeling Model for Variational Recognition-driven Image Segmentation. International Journal of Computer Vision, 2006, 66, 67-81.	10.9	87
48	Multi-view deep learning for consistent semantic mapping with RGB-D cameras. , 2017, , .		87
49	Multiview Stereo and Silhouette Consistency via Convex Functionals over Convex Domains. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2011, 33, 1161-1174.	9.7	86
50	B-Spline Modeling of Road Surfaces With an Application to Free-Space Estimation. IEEE Transactions on Intelligent Transportation Systems, 2009, 10, 572-583.	4.7	85
51	Variational Depth From Focus Reconstruction. IEEE Transactions on Image Processing, 2015, 24, 5369-5378.	6.0	85
52	A primal-dual framework for real-time dense RGB-D scene flow. , 2015, , .		81
53	Intrinsic3D: High-Quality 3D Reconstruction by Joint Appearance and Geometry Optimization with Spatially-Varying Lighting. , 2017, , .		81
54	Large displacement optical flow computation withoutwarping. , 2009, , .		75

#	Article	IF	Citations
55	Challenges in Monocular Visual Odometry: Photometric Calibration, Motion Bias, and Rolling Shutter Effect. IEEE Robotics and Automation Letters, 2018, 3, 2878-2885.	3.3	74
56	Radiomics in radiooncology â€“ Challenging the medical physicist. Physica Medica, 2018, 48, 27-36.	0.4	71
57	Fast Joint Estimation of Silhouettes and Dense 3D Geometry from Multiple Images. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2012, 34, 493-505.	9.7	67
58	Omnidirectional DSO: Direct Sparse Odometry With Fisheye Cameras. IEEE Robotics and Automation Letters, 2018, 3, 3693-3700.	3.3	66
59	Spectral Decompositions Using One-Homogeneous Functionals. SIAM Journal on Imaging Sciences, 2016, 9, 1374-1408.	1.3	65
60	Real-time human motion tracking using multiple depth cameras. , 2012, , .		62
61	Spatially Varying Color Distributions for Interactive Multilabel Segmentation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1234-1247.	9.7	55
62	Nonâ€Rigid Puzzles. Computer Graphics Forum, 2016, 35, 135-143.	1.8	53
63	A Region-Based Gauss-Newton Approach to Real-Time Monocular Multiple Object Tracking. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2019, 41, 1797-1812.	9.7	53
64	A Linear Framework for Region-Based Image Segmentation and Inpainting Involving Curvature Penalization. International Journal of Computer Vision, 2012, 99, 53-68.	10.9	52
65	A generalized framework for opening doors and drawers in kitchen environments. , 2012, , .		51
66	Collaborative Total Variation: A General Framework for Vectorial TV Models. SIAM Journal on Imaging Sciences, 2016, 9, 116-151.	1.3	51
67	Online Photometric Calibration of Auto Exposure Video for Realtime Visual Odometry and SLAM. IEEE Robotics and Automation Letters, 2018, 3, 627-634.	3.3	51
68	LED-Based Photometric Stereo: Modeling, Calibration and Numerical Solution. Journal of Mathematical Imaging and Vision, 2018, 60, 313-340.	0.8	50
69	Statistical shape knowledge in variational motion segmentation. Image and Vision Computing, 2003, 21, 77-86.	2.7	49
70	A Super-Resolution Framework for High-Accuracy Multiview Reconstruction. International Journal of Computer Vision, 2014, 106, 172-191.	10.9	46
71	Superresolution texture maps for multiview reconstruction. , 2009, , .		45
72	A Survey and Comparison of Discrete and Continuous Multi-label Optimization Approaches for the Potts Model. International Journal of Computer Vision, 2013, 104, 223-240.	10.9	44

#	Article	IF	Citations
73	Field phenotyping of grapevine growth using dense stereo reconstruction. BMC Bioinformatics, 2015, 16, 143.	1.2	43
74	Duality TV-L1 flow with fundamental matrix prior. , 2008, , .		42
75	A Non-convex Variational Approach to Photometric Stereo under Inaccurate Lighting. , 2017, , .		42
76	GN-Net: The Gauss-Newton Loss for Multi-Weather Relocalization. IEEE Robotics and Automation Letters, 2020, 5, 890-897.	3.3	42
77	Total Variation Regularization for Functions with Values in a Manifold. , 2013, , .		41
78	The Primal-Dual Hybrid Gradient Method for Semiconvex Splittings. SIAM Journal on Imaging Sciences, 2015, 8, 827-857.	1.3	40
79	3-D Reconstruction of Shaded Objects from Multiple Images Under Unknown Illumination. International Journal of Computer Vision, 2008, 76, 245-256.	10.9	39
80	Efficient planar graph cuts with applications in Computer Vision. , 2009, , .		39
81	Fast Matching of Planar Shapes in Sub-cubic Runtime. , 2007, , .		37
82	DM-VIO: Delayed Marginalization Visual-Inertial Odometry. IEEE Robotics and Automation Letters, 2022, 7, 1408-1415.	3.3	37
83	Total Cyclic Variation and Generalizations. Journal of Mathematical Imaging and Vision, 2013, 47, 258-277.	0.8	35
84	Globally Optimal Image Segmentation with an Elastic Shape Prior. , 2007, , .		33
85	Generalized ordering constraints for multilabel optimization. , 2011, , .		33
86	Elastic Net Constraints for Shape Matching. , 2013, , .		33
87	Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional. Lecture Notes in Computer Science, 2014, , 127-141.	1.0	33
88	Consistent Partial Matching of Shape Collections via Sparse Modeling. Computer Graphics Forum, 2017, 36, 209-221.	1.8	32
89	Nonlinear Dynamical Shape Priors forÂLevel Set Segmentation. Journal of Scientific Computing, 2008, 35, 132-143.	1.1	31
90	NeuroMorph: Unsupervised Shape Interpolation and Correspondence in One Go. , 2021, , .		28

#	Article	IF	Citations
91	Introducing Curvature into Globally Optimal Image Segmentation: Minimum Ratio Cycles on Product Graphs. , 2007, , .		26
92	The Elastic Ratio: Introducing Curvature Into Ratio-Based Image Segmentation. IEEE Transactions on Image Processing, 2011, 20, 2565-2581.	6.0	26
93	Robust Region Detection via Consensus Segmentation of Deformable Shapes. Computer Graphics Forum, 2014, 33, 97-106.	1.8	26
94	A simple and effective relevance-based point sampling for 3D shapes. Pattern Recognition Letters, 2015, 59, 41-47.	2.6	24
95	From monocular SLAM to autonomous drone exploration. , 2017, , .		24
96	Fight Ill-Posedness with Ill-Posedness: Single-shot Variational Depth Super-Resolution from Shading. , 2018, , .		24
97	Largeâ€Scale Integer Linear Programming for Orientation Preserving 3D Shape Matching. Computer Graphics Forum, 2011, 30, 1471-1480.	1.8	23
98	Tight Convex Relaxations for Vector-Valued Labeling. SIAM Journal on Imaging Sciences, 2013, 6, 1626-1664.	1.3	23
99	High resolution motion layer decomposition using dual-space graph cuts. , 2008, , .		22
100	De-noising, stabilizing and completing 3D reconstructions on-the-go using plane priors. , 2017, , .		22
101	Fast and exact solution of Total Variation models on the GPU. , 2008, , .		21
102	Realistic photometric stereo using partial differential irradiance equation ratios. Computers and Graphics, 2015, 51, 8-16.	1.4	21
103	Super-resolution Keyframe Fusion for 3D Modeling with High-Quality Textures. , 2015, , .		21
104	Trajectory prediction for intelligent vehicles using spatialâ€attention mechanism. IET Intelligent Transport Systems, 2020, 14, 1855-1863.	1.7	21
105	Image segmentation with one shape prior â€" A template-based formulation. Image and Vision Computing, 2012, 30, 1032-1042.	2.7	20
106	Depth Super-Resolution Meets Uncalibrated Photometric Stereo. , 2017, , .		20
107	Anisotropic Minimal Surfaces Integrating Photoconsistency and Normal Information for Multiview Stereo. Lecture Notes in Computer Science, 2010, , 538-551.	1.0	20
108	Divergenceâ€Free Shape Correspondence by Deformation. Computer Graphics Forum, 2019, 38, 1-12.	1.8	19

#	Article	IF	Citations
109	Nonlinear Dynamical Shape Priors for Level Set Segmentation. , 2007, , .		18
110	Convex Relaxation of Vectorial Problems with Coupled Regularization. SIAM Journal on Imaging Sciences, 2014, 7, 294-336.	1.3	18
111	Generalized Connectivity Constraints for Spatio-temporal 3D Reconstruction. Lecture Notes in Computer Science, 2014, , 32-46.	1.0	17
112	TUM-VIE: The TUM Stereo Visual-Inertial Event Dataset. , 2021, , .		17
113	Car detection by fusion of HOG and causal MRF. IEEE Transactions on Aerospace and Electronic Systems, 2015, 51, 575-590.	2.6	16
114	Automatic image-based determination of pruning mass as a determinant for yield potential in grapevine management and breeding. Australian Journal of Grape and Wine Research, 2017, 23, 120-124.	1.0	16
115	Globally optimal shape-based tracking in real-time. , 2008, , .		15
116	Tight convex relaxations for vector-valued labeling problems. , 2011, , .		15
117	Total variation for cyclic structures: Convex relaxation and efficient minimization. , 2011, , .		15
118	Box-particle probability hypothesis density filtering. IEEE Transactions on Aerospace and Electronic Systems, 2014, 50, 1660-1672.	2.6	15
119	Rolling-Shutter Modelling for Direct Visual-Inertial Odometry. , 2019, , .		15
120	Photometric Depth Super-Resolution. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2020, 42, 2453-2464.	9.7	15
121	Semi-calibrated Near-Light Photometric Stereo. Lecture Notes in Computer Science, 2017, , 656-668.	1.0	15
122	Regularized Pointwise Map Recovery from Functional Correspondence. Computer Graphics Forum, 2017, 36, 700-711.	1.8	14
123	Continuous Global Optimization in Multiview 3D Reconstruction. Lecture Notes in Computer Science, 2007, , 441-452.	1.0	14
124	A Convex Relaxation Approach to Space Time Multi-view 3D Reconstruction. , 2013, , .		13
125	Matching non-rigidly deformable shapes across images: A globally optimal solution. , 2008, , .		12
126	Relative Volume Constraints for Single View 3D Reconstruction. , 2013, , .		12

#	Article	IF	Citations
127	Depth-adaptive supervoxels for RGB-D video segmentation. , 2013, , .		12
128	A Noninvasive 3D Body Scanner and Software Tool towards Analysis of Scoliosis. BioMed Research International, 2019, 2019, 1-15.	0.9	12
129	Beyond connecting the dots: A polynomial-time algorithm for segmentation and boundary estimation with imprecise user input. , 2009, , .		11
130	Traveling Waves of Excitation in Neural Field Models: Equivalence of Rate Descriptions and Integrate-and-Fire Dynamics. Neural Computation, 2002, 14, 1651-1667.	1.3	10
131	Adopting an unconstrained ray model in light-field cameras for 3D shape reconstruction. , 2015, , .		10
132	Continuous ratio optimization via convex relaxation with applications to multiview 3D reconstruction. , 2009, , .		9
133	Decoupling photometry and geometry in dense variational camera calibration. , 2011, , .		9
134	Proximity Priors for Variational Semantic Segmentation and Recognition. , 2013, , .		9
135	Stream-based Active Learning for efficient and adaptive classification of 3D objects. , 2016, , .		9
136	Flow equations for the HÃ©nonâ€“Heiles Hamiltonian. Physica D: Nonlinear Phenomena, 1999, 126, 123-135.	1.3	7
137	Multi-object tracking via high accuracy optical flowand finite set statistics. , 2011, , .		7
138	Inferring Super-Resolution Depth from a Moving Light-Source Enhanced RGB-D Sensor: A Variational Approach. , 2020, , .		7
139	Intrinsic Mean for Semi-metrical Shape Retrieval Via Graph Cuts. , 2007, , 446-455.		7
140	Efficient planar graph cuts with applications in Computer Vision. , 2009, , .		7
141	Nonparametric Priors on the Space of Joint Intensity Distributions for Non-Rigid Multi-Modal Image Registration. , 0, , .		6
142	Passive multi-object localization and tracking using bearing data. , 2010, , .		6
143	Proportion Priors for Image Sequence Segmentation. , 2013, , .		6
144	Variational Reflectance Estimation from Multi-view Images. Journal of Mathematical Imaging and Vision, 2018, 60, 1527-1546.	0.8	6

#	Article	IF	Citations
145	Bregman Proximal Mappings and Bregmanâ€“Moreau Envelopes Under Relative Prox-Regularity. Journal of Optimization Theory and Applications, 2020, 184, 724-761.	0.8	6
146	Unsupervised Dense Shape Correspondence using Heat Kernels. , 2020, , .		6
147	Map-based drone homing using shortcuts. , 2017, , .		5
148	From Planes to Corners: Multi-Purpose Primitive Detection in Unorganized 3D Point Clouds. IEEE Robotics and Automation Letters, 2020, 5, 1764-1771.	3.3	5
149	Hamiltonian Dynamics for Real-World Shape Interpolation. Lecture Notes in Computer Science, 2020, , 179-196.	1.0	5
150	Active online confidence boosting for efficient object classification. , 2015, , .		4
151	Real-time variational stereo reconstruction with applications to large-scale dense SLAM. , 2017, , .		4
152	Nonmetric Priors for Continuous Multilabel Optimization. Lecture Notes in Computer Science, 2012, , 208-221.	1.0	4
153	Lifting Methods for Manifold-Valued Variational Problems. , 2020, , 95-119.		4
154	A variational approach to vesicle membrane reconstruction from fluorescence imaging. Pattern Recognition, 2011, 44, 2944-2958.	5.1	3
155	Convex Optimization for Scene Understanding. , 2013, , .		3
156	Accelerating in vivo fast spin echo high angular resolution diffusion imaging with an isotropic resolution in mice through compressed sensing. Magnetic Resonance in Medicine, 2021, 85, 1397-1413.	1.9	3
157	Efficient Convex Optimization for Minimal Partition Problems with Volume Constraints. Lecture Notes in Computer Science, 2013, , 94-107.	1.0	3
158	On the Well-Posedness of Uncalibrated Photometric Stereo Under General Lighting. Advances in Computer Vision and Pattern Recognition, 2020, , 147-176.	0.9	3
159	Towards Robust Monocular Visual Odometry for Flying Robots on Planetary Missions. , 2021, , .		3
160	Optimal solutions for semantic image decomposition. Image and Vision Computing, 2012, 30, 476-477.	2.7	2
161	Semi-supervised online learning for efficient classification of objects in 3D data streams. , 2015, , .		2
162	The Role of Diffusion in Figure Hunt Games. Journal of Mathematical Imaging and Vision, 2015, 52, 108-123.	0.8	2

#	Article	IF	Citations
163	Midrange Geometric Interactions for Semantic Segmentation. International Journal of Computer Vision, 2016, 117, 199-225.	10.9	2
164	Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing. , 2017, , .		2
165	Incremental Semi-Supervised Learning from Streams for Object Classification. , 2018, , .		2
166	Partial Single- and Multishape Dense Correspondence Using Functional Maps. Handbook of Numerical Analysis, 2018, 19, 55-90.	0.9	2
167	Continuous ratio optimization via convex relaxation with applications to multiview 3D reconstruction. , 2009, , .		2
168	Learn to Predict Sets Using Feed-Forward Neural Networks. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2022, 44, 9011-9025.	9.7	2
169	Sublabel-Accurate Multilabeling Meets Product Label Spaces. Lecture Notes in Computer Science, 2021, , 3-17.	1.0	2
170	Statistical shape priors for level set segmentation. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1041903-1041904.	0.2	1
171	Multiple source localization based on biased bearings using the intensity filter - approach and experimental results. , 2011, , .		1
172	Evaluation of a Nonrigid Motion Compensation Technique Based on Spatiotemporal Features for Small Lesion Detection in Breast MRI. Advances in Artificial Neural Systems, 2012, 2012, 1-10.	1.0	1
173	Tau Like Proteins Reduce Torque Generation in Microtubule Bundles. Biophysical Journal, 2017, 112, 29a-30a.	0.2	1
174	Holistic Image Reconstruction for Diffusion MRI. Mathematics and Visualization, 2016, , 27-39.	0.4	1
175	Shortest Paths in Graphs with Matrix-Valued Edges: Concepts, Algorithm and Application to 3D Multi-Shape Analysis. , 2021, , .		1
176	Entropy Minimization for Groupwise Planar Shape Co-alignment and its Applications. IEEE Signal Processing Letters, 2015, 22, 1922-1926.	2.1	0
177	Sequential Convex Programming for Computing Information-Theoretic Minimal Partitions: Nonconvex Nonsmooth Optimization. SIAM Journal on Imaging Sciences, 2017, 10, 1845-1877.	1.3	0