Marc Pollefeys

List of Publications by Year
in descending order

114 papers	6,777 citations	331538 21 h-index	377752 34 g-index
114 all docs	114 docs citations	114 times ranked	4484 citing authors

#	Article	IF	Citations
1	Towards markerless surgical tool and hand pose estimation. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 799-808.	1.7	18
2	FMODetect: Robust Detection of Fast Moving Objects. , 2021, , .		7
3	To Learn or Not to Learn: Visual Localization from Essential Matrices. , 2020, , .		39
4	Why Having 10,000 Parameters in Your Camera Model Is Better Than Twelve. , 2020, , .		28
5	OmniSLAM: Omnidirectional Localization and Dense Mapping for Wide-baseline Multi-camera Systems. , 2020, , .		25
6	Deep Shutter Unrolling Network. , 2020, , .		27
7	Large-scale, real-time visual–inertial localization revisited. International Journal of Robotics Research, 2020, 39, 1061-1084.	5.8	52
8	Self-Supervised Linear Motion Deblurring. IEEE Robotics and Automation Letters, 2020, 5, 2475-2482.	3.3	20
9	Aerial Single-View Depth Completion With Image-Guided Uncertainty Estimation. IEEE Robotics and Automation Letters, 2020, 5, 1055-1062.	3.3	40
10	Night-to-Day Image Translation for Retrieval-based Localization. , 2019, , .		123
11	Efficient 2D-3D Matching for Multi-Camera Visual Localization. , 2019, , .		25
12	Real-Time Dense Mapping for Self-Driving Vehicles using Fisheye Cameras. , 2019, , .		26
13	Polarimetric Relative Pose Estimation. , 2019, , .		16
14	3D Appearance Super-Resolution With Deep Learning. , 2019, , .		22
15	Consensus Maximization for Semantic Region Correspondences. , 2018, , .		6
16	InLoc: Indoor Visual Localization with Dense Matching and View Synthesis. , 2018, , .		255
17	Semantic Visual Localization. , 2018, , .		151
18	Robust Dense Mapping for Large-Scale Dynamic Environments. , 2018, , .		82

#	Article	IF	Citations
19	Benchmarking 6DOF Outdoor Visual Localization in Changing Conditions. , 2018, , .		367
20	Augmenting Crowd-Sourced 3D Reconstructions Using Semantic Detections. , 2018, , .		5
21	Hybrid Camera Pose Estimation. , 2018, , .		33
22	Real-time stereo matching failure prediction and resolution using orthogonal stereo setups. , 2017, , .		6
23	Fusing Meter-Resolution 4-D InSAR Point Clouds and Optical Images for Semantic Urban Infrastructure Monitoring. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 14-26.	2.7	61
24	Toroidal Constraints for Two-Point Localization Under High Outlier Ratios. , 2017, , .		25
25	Indoor Scan2BIM: Building information models of house interiors. , 2017, , .		32
26	TI-POOLING: Transformation-Invariant Pooling for Feature Learning in Convolutional Neural Networks. , 2016, , .		143
27	Large-Scale Location Recognition and the Geometric Burstiness Problem. , 2016, , .		97
28	Sparse to Dense 3D Reconstruction from Rolling Shutter Images. , 2016, , .		22
29	Structure-based auto-calibration of RGB-D sensors. , 2016, , .		6
30	Image Based Geo-localization in the Alps. International Journal of Computer Vision, 2016, 116, 213-225.	10.9	50
31	Merging the Unmatchable: Stitching Visually Disconnected SfM Models. , 2015, , .		27
32	Optimizing the Viewing Graph for Structure-from-Motion. , 2015, , .		78
33	Efficient visual exploration and coverage with a micro aerial vehicle in unknown environments. , 2015, , .		72
34	Non-parametric Structure-Based Calibration of Radially Symmetric Cameras. , 2015, , .		10
35	Omnidirectional visual obstacle detection using embedded FPGA. , 2015, , .		27
36	Semi-direct EKF-based monocular visual-inertial odometry. , 2015, , .		36

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37	Camera Pose Voting for Large-Scale Image-Based Localization. , 2015, , .		113
38	Obstacle detection for self-driving cars using only monocular cameras and wheel odometry. , 2015, , .		44
39	Minimal solutions for the multi-camera pose estimation problem. International Journal of Robotics Research, 2015, 34, 837-848.	5.8	27
40	Using vanishing points to improve visual-inertial odometry. , 2015, , .		32
41	Self-calibration and visual SLAM with a multi-camera system on a micro aerial vehicle. Autonomous Robots, 2015, 39, 259-277.	3.2	55
42	PX4: A node-based multithreaded open source robotics framework for deeply embedded platforms. , 2015, , .		380
43	Efficient Learning of Linear Predictors for Template Tracking. International Journal of Computer Vision, 2015, 111, 12-28.	10.9	8
44	Real-Time Direct Dense Matching on Fisheye Images Using Plane-Sweeping Stereo. , 2014, , .		44
45	Unsupervised learning of threshold for geometric verification in visual-based loop-closure. , 2014, , .		11
46	Variational Regularization and Fusion of Surface Normal Maps. , 2014, , .		6
47	Autonomous Visual Mapping and Exploration With a Micro Aerial Vehicle. Journal of Field Robotics, 2014, 31, 654-675.	3.2	69
48	Real-World Normal Map Capture for Nearly Flat Reflective Surfaces. , 2013, , .		8
49	Toward automated driving in cities using close-to-market sensors: An overview of the V-Charge Project. , 2013, , .		85
50	Geo-registered 3D models from crowdsourced image collections. Geo-Spatial Information Science, 2013, 16, 55-60.	2.4	11
51	Structureless pose-graph loop-closure with a multi-camera system on a self-driving car. , 2013, , .		10
52	Live Metric 3D Reconstruction on Mobile Phones. , 2013, , .		153
53	Model-Based Vehicle Pose Estimation and Tracking in Videos Using Random Forests. , 2013, , .		5
54	3-line RANSAC for orthogonal vanishing point detection. , 2012, , .		73

#	ARTICLE	IF	CITATIONS
55	Leveraging Topographic Maps for Image to Terrain Alignment. , 2012, , .		7
56	Registration of Spherical Panoramic Images with Cadastral 3D Models. , 2012, , .		29
57	Online environment mapping using metric-topological maps. International Journal of Robotics Research, 2012, 31, 1394-1408.	5.8	13
58	Leveraging 3D City Models for Rotation Invariant Place-of-Interest Recognition. International Journal of Computer Vision, 2012, 96, 315-334.	10.9	55
59	Real-time 6D stereo Visual Odometry with non-overlapping fields of view. , 2012, , .		34
60	Vision-based autonomous mapping and exploration using a quadrotor MAV. , 2012, , .		214
61	Classification and Pose Estimation of Vehicles in Videos by 3D Modeling within Discrete-Continuous Optimization. , 2012, , .		9
62	Efficient stereo video encoding for mobile applications using the 3D+F codec. , 2012, , .		1
63	SFly: Swarm of micro flying robots. , 2012, , .		21
64	PIXHAWK: A micro aerial vehicle design for autonomous flight using onboard computer vision. Autonomous Robots, 2012, 33, 21-39.	3.2	308
65	Radial Multi-focal Tensors. International Journal of Computer Vision, 2012, 96, 195-211.	10.9	23
66	The generalized trace-norm and its application to structure-from-motion problems. , 2011, , .		31
67	Static calibration of the DLR medical robot MIRO, a flexible lightweight robot with integrated torque sensors. , 2011, , .		1
68	Stereo Reconstruction of Building Interiors with a Vertical Structure Prior. , 2011, , .		7
69	Feature tracking and matching in video using programmable graphics hardware. Machine Vision and Applications, 2011, 22, 207-217.	1.7	152
70	Autonomous obstacle avoidance and maneuvering on a vision-guided MAV using on-board processing. , 2011, , .		77
71	PIXHAWK: A system for autonomous flight using onboard computer vision. , 2011, , .		257
72	Online environment mapping. , 2011, , .		36

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73	RS-SLAM: RANSAC sampling for visual FastSLAM. , 2011, , .		10
74	Stereo depth map fusion for robot navigation. , 2011, , .		24
75	Modeling the joint density of two images under a variety of transformations. , 2011, , .		21
76	MAV visual SLAM with plane constraint. , 2011, , .		9
77	Modeling Dynamic Scenes Recorded with Freely Moving Cameras. Lecture Notes in Computer Science, 2011, , 613-626.	1.0	25
78	Dense 3D Reconstruction of Symmetric Scenes from a Single Image. Lecture Notes in Computer Science, 2011, , 266-275.	1.0	19
79	Rotating magnetic micro-robots for versatile non-contact fluidic manipulation of micro-objects. , 2011, , .		2
80	RSSI-based physical layout classification and Target Tethering in mobile ad-hoc networks. , 2011, , .		1
81	3D Reconstruction and Video-Based Rendering of Casually Captured Videos. Lecture Notes in Computer Science, 2011, , 77-103.	1.0	1
82	Towards Large-Scale Visual Mapping and Localization. Springer Tracts in Advanced Robotics, 2011, , 535-555.	0.3	1
83	Challenges in Wide-area Structure-from-motion. IPSJ Transactions on Computer Vision and Applications, 2010, 2, 105-120.	4.4	1
84	Camera Network Calibration and Synchronization fromÂSilhouettes in Archived Video. International Journal of Computer Vision, 2010, 87, 266-283.	10.9	43
85	Joint radiometric calibration and feature tracking system with an application to stereo. Computer Vision and Image Understanding, 2010, 114, 574-582.	3.0	14
86	A benchmarking tool for MAV visual pose estimation. , 2010, , .		29
87	Combining Monocular and Stereo Cues for Mobile Robot Localization Using Visual Words. , 2010, , .		7
88	Unstructured video-based rendering. ACM Transactions on Graphics, 2010, 29, 1-11.	4.9	68
89	Piecewise planar and non-planar stereo for urban scene reconstruction. , 2010, , .		160
90	A constricted bundle adjustment parameterization for relative scale estimation in visual odometry. , 2010, , .		19

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91	Exploiting uncertainty in random sample consensus. , 2009, , .		43
92	Static multi-camera factorization using rigid motion. , 2009, , .		7
93	Absolute scale in structure from motion from a single vehicle mounted camera by exploiting nonholonomic constraints. , 2009, , .		87
94	Multi-View Calibration, Synchronization, and Dynamic Scene Reconstruction. , 2009, , 29-75.		3
95	Urban 3D Reconstruction. , 2009, , 481-533.		1
96	Fluid in Video: Augmenting Real Video with Simulated Fluids. Computer Graphics Forum, 2008, 27, 487-496.	1.8	5
97	Robust 6DOF Motion Estimation for Non-Overlapping, Multi-Camera Systems. , 2008, , .		56
98	3D model search and pose estimation from single images using VIP features. , 2008, , .		9
99	Direct computation of sound and microphone locations from time-difference-of-arrival data. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	54
100	Interactive 3D architectural modeling from unordered photo collections. ACM Transactions on Graphics, 2008, 27, 1-10.	4.9	153
101	Joint Feature Tracking and Radiometric Calibration from Auto-Exposure Video. , 2007, , .		19
102	Differential Camera Tracking through Linearizing the Local Appearance Manifold. , 2007, , .		6
103	Simplified Belief Propagation for Multiple View Reconstruction. , 2006, , .		7
104	Visual Hull Construction in the Presence of Partial Occlusion. , 2006, , .		31
105	Illumination Insensitive Model-Based 3D Object Tracking and Texture Refinement. , 2006, , .		3
106	A UNIFIED APPROACH TO REAL-TIME, MULTI-RESOLUTION, MULTI-BASELINE 2D VIEW SYNTHESIS AND 3D DEPTH ESTIMATION USING COMMODITY GRAPHICS HARDWARE. International Journal of Image and Graphics, 2004, 04, 627-651.	1.2	25
107	Visual Modeling with a Hand-Held Camera. International Journal of Computer Vision, 2004, 59, 207-232.	10.9	694
108	From images to 3D models. Communications of the ACM, 2002, 45, 50-55.	3.3	72

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109	Visual modelling: from images to images. Computer Animation and Virtual Worlds, 2002, 13, 199-209.	0.9	13
110	Surviving Dominant Planes in Uncalibrated Structure and Motion Recovery. Lecture Notes in Computer Science, 2002, , 837-851.	1.0	51
111	Image-Based Rendering from Uncalibrated Lightfields with Scalable Geometry. Lecture Notes in Computer Science, 2001, , 51-66.	1.0	4
112	Virtual Models from Video and Vice-Versa. , 2001, , 11-22.		4
113	Image-Based 3D Modeling: Modeling from Reality. , 2000, , 161-178.		3
114	Title is missing!. International Journal of Computer Vision, 1999, 32, 7-25.	10.9	505