Reinhard Koch

List of Publications by Year
in descending order

121 papers	4,219 citations	236925 25 h-index	133252 59 g-index
128 all docs	128 docs citations	128 times ranked	2944 citing authors

#	Article	IF	Citations
1	Keypoint Detection for Injury Identification during Turkey Husbandry Using Neural Networks. Sensors, 2022, 22, 5188.	3.8	5
2	Learn to Train: Improving Training Data for a Neural Network to Detect Pecking Injuries in Turkeys. Animals, 2021, 11, 2655.	2.3	3
3	A Survey on Semi-, Self- and Unsupervised Learning for Image Classification. IEEE Access, 2021, 9, 82146-82168.	4.2	99
4	Fuzzy Overclustering: Semi-Supervised Classification of Fuzzy Labels with Overclustering and Inverse Cross-Entropy. Sensors, 2021, 21, 6661.	3.8	6
5	Ray Tracing-Guided Design of Plenoptic Cameras. , 2021, , .		3
6	Panoptic Segmentation of Individual Pigs for Posture Recognition. Sensors, 2020, 20, 3710.	3.8	21
7	MorphoCluster: Efficient Annotation of Plankton Images by Clustering. Sensors, 2020, 20, 3060.	3.8	28
8	Usage of computer vision analysis for automatic detection of activity changes in sows during final gestation. Computers and Electronics in Agriculture, 2020, 169, 105177.	7.7	15
9	An Analysis by Synthesis Method that Allows Accurate Spatial Modeling of Thickness of Cortical Bone from Clinical QCT. Lecture Notes in Computer Science, 2020, , 641-651.	1.3	0
10	Light Field Reconstruction Using Shearlet Transform in TensorFlow. , 2019, , .		2
11	MAST: Mask-Accelerated Shearlet Transform for Densely-Sampled Light Field Reconstruction. , 2019, , .		4
12	Fast: Flow-Assisted Shearlet Transform for Densely-Sampled Light Field Reconstruction. , 2019, , .		3
13	Single Image Plankton 3D Reconstruction from Extended Depth of Field Shadowgraph. Lecture Notes in Computer Science, 2019, , 76-85.	1.3	0
14	Parcel Tracking by Detection in Large Camera Networks. Lecture Notes in Computer Science, 2019, , 89-104.	1.3	4
15	Robust Depth Estimation for Light Field Microscopy. Sensors, 2019, 19, 500.	3.8	24
16	Topology-Based 3D Reconstruction of Mid-Level Primitives in Man-Made Environments. Lecture Notes in Computer Science, 2019, , 3-17.	1.3	0
17	IEST: Interpolation-Enhanced Shearlet Transform for Light Field Reconstruction Using Adaptive Separable Convolution. , 2019, , .		2
18	Creating Realistic Ground Truth Data for the Evaluation of Calibration Methods for Plenoptic and Conventional Cameras. , 2019, , .		2

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19	Low-Shot Learning of Plankton Categories. Lecture Notes in Computer Science, 2019, , 391-404.	1.3	7
20	An Analysis by Synthesis Approach for Automatic Vertebral Shape Identification in Clinical QCT. Lecture Notes in Computer Science, 2019, , 73-88.	1.3	1
21	2D and 3D Segmentation of Uncertain Local Collagen Fiber Orientations in SHG Microscopy. Lecture Notes in Computer Science, 2019, , 374-386.	1.3	10
22	Particulate matter flux interception in oceanic mesoscale eddies by the polychaete *Poeobius* sp.. Limnology and Oceanography, 2018, 63, 2093-2109.	3.1	39
23	A Novel Kinect V2 Registration Method Using Color and Deep Geometry Descriptors. , 2018, , .		1
24	Parallax View Generation for Static Scenes Using Parallax-Interpolation Adaptive Separable Convolution. , 2018, , .		8
25	MATCHING LIGHT FIELD DATASETS FROM PLENOPTIC CAMERAS 1.0 AND 2.0. , 2018, , .		3
26	The Plenoptic 2.0 Toolbox: Benchmarking of Depth Estimation Methods for MLA-Based Focused Plenoptic Cameras. , 2018, , .		7
27	SIMULATION OF PLENOPTIC CAMERAS. , 2018, , .		7
28	Model-based detection of pigs in images under sub-optimal conditions. Computers and Electronics in Agriculture, 2018, 152, 59-63.	7.7	23
29	Combined Precise Extraction and Topology ofÂPoints, Lines and Curves in Man-Made Environments. Lecture Notes in Computer Science, 2017, , 115-125.	1.3	3
30	Pose Estimation from Line Correspondences: A Complete Analysis and a Series of Solutions. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2017, 39, 1209-1222.	13.9	99
31	Optimizing the Lens Selection Process for Multi-focus Plenoptic Cameras and Numerical Evaluation. , 2017, , .		3
32	A novel kinect V2 registration method for large-displacement environments using camera and scene constraints. , 2017, , .		3
33	Improved wavefront correction for coherent image restoration. Optics Express, 2017, 25, 18797.	3.4	3
34	A linear method for recovering the depth of Ultra HD cameras using a kinect V2 sensor. , 2017, , .		3
35	A Novel Self-Calibration Method for a Stereo-ToF System Using a Kinect V2 and Two 4K GoPro Cameras. , 2017, , .		4
36	Restoration of images with wavefront aberrations. , 2016, , .		0

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37	Refractive 3D reconstruction on underwater images. Methods in Oceanography, 2016, 15-16, 90-113.	1.6	46
38	Precise and Robust Line Detection for Highly Distorted and Noisy Images. Lecture Notes in Computer Science, 2016, , 3-13.	1.3	3
39	Fast projector-camera calibration for interactive projection mapping. , 2016, , .		5
40	Vanishing Point Estimation and Line Classification in a Manhattan World with a Unifying Camera Model. International Journal of Computer Vision, 2016, 117, 111-130.	15.6	36
41	Randomly Sparsified Synthesis for Model-Based Deformation Analysis. Lecture Notes in Computer Science, 2016, , 143-154.	1.3	1
42	The Bubble Box: Towards an Automated Visual Sensor for 3D Analysis and Characterization of Marine Gas Release Sites. Sensors, 2015, 15, 30716-30735.	3.8	16
43	Tracking of object deformations in color and depth video: deformation models and applications. Proceedings of SPIE, 2015, , .	0.8	1
44	Multi-Camera Structure from Motion with Eye-to-Eye Calibration. Lecture Notes in Computer Science, 2015, , 29-40.	1.3	2
45	Structure and motion from line correspondences: Representation, projection, initialization and sparse bundle adjustment. Journal of Visual Communication and Image Representation, 2014, 25, 904-915.	2.8	50
46	An Adaptable Robot Vision System Performing Manipulation Actions With Flexible Objects. IEEE Transactions on Automation Science and Engineering, 2014, 11, 749-765.	5.2	51
47	Dense 3D Motion Field Estimation from a Moving Observer in Real Time. , 2014, , 19-34.		1
48	Refractive Structure-from-Motion on Underwater Images. , 2013, , .		56
49	Truthful Color Reproduction in Spatial Augmented Reality Applications. IEEE Transactions on Visualization and Computer Graphics, 2013, 19, 236-248.	4.4	25
50	Direct Model-Based Tracking of 3D Object Deformations in Depth and Color Video. International Journal of Computer Vision, 2013, 102, 239-255.	15.6	20
51	An efficient and robust line segment matching approach based on LBD descriptor and pairwise geometric consistency. Journal of Visual Communication and Image Representation, 2013, 24, 794-805.	2.8	354
52	3D Reconstruction of Archaeological Trenches from Photographs. Contributions in Mathematical and Computational Sciences, 2013, , 273-281.	0.3	2
53	Robust and Efficient Pose Estimation from Line Correspondences. Lecture Notes in Computer Science, 2013, , 217-230.	1.3	36
54	Vanishing Points Estimation and Line Classification in a Manhattan World. Lecture Notes in Computer Science, 2013, , 38-51.	1.3	1

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55	Structure from Motion Using Rigidly Coupled Cameras without Overlapping Views. Lecture Notes in Computer Science, 2013, , 11-20.	1.3	3
56	Refractive Plane Sweep for Underwater Images. Lecture Notes in Computer Science, 2013, , 333-342.	1.3	11
57	Technical Foundation and Calibration Methods for Time-of-Flight Cameras. Lecture Notes in Computer Science, 2013, , 3-24.	1.3	37
58	LDV Generation from Multi-View Hybrid Image and Depth Video. , 2013, , 191-220.		0
59	Video-based realtime IMU-camera calibration for robot navigation. Proceedings of SPIE, 2012, , .	0.8	4
60	Line Matching Using Appearance Similarities and Geometric Constraints. Lecture Notes in Computer Science, 2012, , 236-245.	1.3	16
61	Geometric Calibration of Head-Mounted Displays and its Effects on Distance Estimation. IEEE Transactions on Visualization and Computer Graphics, 2012, 18, 589-596.	4.4	67
62	Simultaneous Estimation of Material Properties and Pose for Deformable Objects from Depth and Color Images. Lecture Notes in Computer Science, 2012, , 165-174.	1.3	17
63	Refractive Calibration of Underwater Cameras. Lecture Notes in Computer Science, 2012, , 846-859.	1.3	40
64	Perspective and Non-perspective Camera Models in Underwater Imaging â€" Overview and Error Analysis. Lecture Notes in Computer Science, 2012, , 212-242.	1.3	36
65	Display-Independent 3D-TV Production and Delivery Using the Layered Depth Video Format. IEEE Transactions on Broadcasting, 2011, 57, 477-490.	3.2	19
66	A Best-Next-View-Selection Algorithm for Multi-view Rendering. , 2011, , .		1
67	Visualisation Techniques for Using Spatial Augmented Reality in the Design Process of a Car. Computer Graphics Forum, 2011, 30, 2354-2366.	3.0	24
68	Interactive visualization technique for truthful color reproduction in spatial augmented reality applications. , 2011, , .		9
69	Hand-Held Monocular SLAM Based on Line Segments. , 2011, , .		20
70	Improved Video Segmentation by Adaptive Combination of Depth Keying and Mixture-of-Gaussians. Lecture Notes in Computer Science, 2011, , 59-68.	1.3	24
71	Time-Consistent Foreground Segmentation of Dynamic Content from Color and Depth Video. Lecture Notes in Computer Science, 2011, , 296-305.	1.3	4
72	Efficient Rendering of Light Field Images. Lecture Notes in Computer Science, 2011, , 184-211.	1.3	2

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73	An Outline for an Intelligent System Performing Peg-in-Hole Actions with Flexible Objects. Lecture Notes in Computer Science, 2011, , 430-441.	1.3	3
74	Fast Tracking of Deformable Objects in Depth and Colour Video. , 2011, , .		11
75	Calibration of Housing Parameters for Underwater Stereo-Camera Rigs. , 2011, , .		35
76	Interactive visualization technique for truthful color reproduction in spatial augmented reality applications. , 2011, , .		0
77	Physically-based augmentation of real objects with virtual content under the influence of ambient light. , 2010, , .		4
78	Time-of-Flight sensor calibration for accurate range sensing. Computer Vision and Image Understanding, 2010, 114, 1318-1328.	4.7	188
79	Timeâ€ofâ€Flight Cameras in Computer Graphics. Computer Graphics Forum, 2010, 29, 141-159.	3.0	250
80	Statistical Analysis of Kalman Filters by Conversion to Gauss-Helmert Models with Applications to Process Noise Estimation. , 2010, , .		6
81	Time budget evaluation for image-based reconstruction of sewer shafts. Proceedings of SPIE, 2010, , .	0.8	0
82	High-Resolution Object Deformation Reconstruction with Active Range Camera. Lecture Notes in Computer Science, 2010, , 543-552.	1.3	3
83	On the helical flow of Langmuir circulation â€" Approaching the process of suspension freezing. Cold Regions Science and Technology, 2009, 56, 50-57.	3.5	18
84	3D reconstruction based on underwater video from ROV Kiel 6000 considering underwater imaging conditions. , 2009, , .		59
85	MixIn3D: 3D Mixed Reality with ToF-Camera. Lecture Notes in Computer Science, 2009, , 126-141.	1.3	20
86	Datastructures for Capturing Dynamic Scenes with a Time-of-Flight Camera. Lecture Notes in Computer Science, 2009, , 42-57.	1.3	1
87	Reconstruction of Sewer Shaft Profiles from Fisheye-Lens Camera Images. Lecture Notes in Computer Science, 2009, , 332-341.	1.3	7
88	Dense Depth Maps from Low Resolution Time-of-Flight Depth and High Resolution Color Views. Lecture Notes in Computer Science, 2009, , 228-239.	1.3	29
89	Conjugate rotation: Parameterization and estimation from an affine feature correspondence. , 2008, , .		11
90	ToF-sensors: New dimensions for realism and interactivity. , 2008, , .		41

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91	Calibration of focal length and 3D pose based on the reflectance and depth image of a planar object. International Journal of Intelligent Systems Technologies and Applications, 2008, 5, 285.	0.2	27
92	Photoconsistent Relative Pose Estimation between a PMD 2D3D-Camera and Multiple Intensity Cameras. Lecture Notes in Computer Science, 2008, , 264-273.	1.3	3
93	Differential Spatial Resection - Pose Estimation Using a Single Local Image Feature. Lecture Notes in Computer Science, 2008, , 312-325.	1.3	14
94	Real-Time Neighborhood Based Disparity Estimation Incorporating Temporal Evidence. Lecture Notes in Computer Science, 2008, , 153-162.	1.3	5
95	Perspectively Invariant Normal Features. , 2007, , .		34
96	A Comparison of PMD-Cameras and Stereo-Vision for the Task of Surface Reconstruction using Patchlets. , 2007, , .		50
97	Robust GPU-assisted camera tracking using free-form surface models. Journal of Real-Time Image Processing, 2007, 2, 133-147.	3.5	13
98	Extraction of 3D freeform surfaces as visual landmarks for real-time tracking. Journal of Real-Time Image Processing, 2007, 2, 81-101.	3.5	18
99	Editorial for the special issue on markerless real-time tracking for augmented reality image synthesis. Journal of Real-Time Image Processing, 2007, 2, 67-68.	3.5	0
100	Supporting Structure from Motion with a 3D-Range-Camera. , 2007, , 233-242.		13
101	Single View Motion Tracking by Depth and Silhouette Information. , 2007, , 719-729.		22
102	An Analysis-by-Synthesis Camera Tracking Approach Based on Free-Form Surfaces. , 2007, , 122-131.		7
103	A Combined Approach for Estimating Patchlets from PMD Depth Images and Stereo Intensity Images. , 2007, , 11-20.		25
104	Calibration of a Multi-camera Rig from Non-overlapping Views. , 2007, , 82-91.		69
105	View Synthesis and Rendering Methods. , 2006, , 151-174.		1
106	Visual Modeling with a Hand-Held Camera. International Journal of Computer Vision, 2004, 59, 207-232.	15.6	694
107	Pose Estimation for Multi-camera Systems. Lecture Notes in Computer Science, 2004, , 286-293.	1.3	31
108	Fast Monocular Bayesian Detection of Independently Moving Objects by a Moving Observer. Lecture Notes in Computer Science, 2004, , 27-35.	1.3	9

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109	Robust Monocular Detection of Independent Motion by a Moving Observer. , 2004, , 209-222.		6
110	Image Based Interactive Rendering with View Dependent Geometry. Computer Graphics Forum, 2003, 22, 573-582.	3.0	13
111	Interactive rendering with view-dependent geometry and texture. , 2003, , .		2
112	Image-Based Rendering from Uncalibrated Lightfields with Scalable Geometry. Lecture Notes in Computer Science, 2001, , 51-66.	1.3	4
113	Realistic surface reconstruction of 3D scenes from uncalibrated image sequences. Computer Animation and Virtual Worlds, 2000, 11, 115-127.	0.9	33
114	Automated reconstruction of 3D scenes from sequences of images. ISPRS Journal of Photogrammetry and Remote Sensing, 2000, 55, 251-267.	11.1	136
115	Image-Based 3D Modeling: Modeling from Reality. , 2000, , 161-178.		3
116	Title is missing!. International Journal of Computer Vision, 1999, 32, 7-25.	15.6	505
117	Metric 3D Surface Reconstruction from Uncalibrated Image Sequences. Lecture Notes in Computer Science, 1998, , 139-154.	1.3	65
118	Multi viewpoint stereo from uncalibrated video sequences. Lecture Notes in Computer Science, 1998, , 55-71.	1.3	80
119	Model-based 3-D scene analysis from stereoscopic image sequences. ISPRS Journal of Photogrammetry and Remote Sensing, 1994, 49, 23-30.	11.1	9
120	Automatic Reconstruction of Buildings from Stereoscopic Image Sequences. Computer Graphics Forum, 1993, 12, 339-350.	3.0	17
121	Dynamic 3-D scene analysis through synthesis feedback control. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1993, 15, 556-568.	13.9	97