Helder Araujo

List of Publications by Year
in descending order

114 papers	1,923 citations
361413 20 h-index	315739 38 g-index
116 all docs	116 docs citations
116 times ranked	1818 citing authors

#	Article	IF	Citations
1	Cross-Validation for Imbalanced Datasets: Avoiding Overoptimistic and Overfitting Approaches [Research Frontier]. IEEE Computational Intelligence Magazine, 2018, 13, 59-76.	3.2	246
2	Geometric properties of central catadioptric line images and their application in calibration. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2005, 27, 1327-1333.	13.9	139
3	Deep EndoVO: A recurrent convolutional neural network (RCNN) based visual odometry approach for endoscopic capsule robots. Neurocomputing, 2018, 275, 1861-1870.	5.9	88
4	Cortical Midline Structures and Autobiographical-Self Processes: An Activation-Likelihood Estimation Meta-Analysis. Frontiers in Human Neuroscience, 2013, 7, 548.	2.0	84
5	EndoSLAM dataset and an unsupervised monocular visual odometry and depth estimation approach for endoscopic videos. Medical Image Analysis, 2021, 71, 102058.	11.6	84
6	Automatic crack monitoring using photogrammetry and image processing. Measurement: Journal of the International Measurement Confederation, 2013, 46, 433-441.	5.0	83
7	Issues on the geometry of central catadioptric image formation. , 0, , .		78
8	A Fully Projective Formulation to Improve the Accuracy of Lowe's Pose-Estimation Algorithm. Computer Vision and Image Understanding, 1998, 70, 227-238.	4.7	64
9	A non-rigid map fusion-based direct SLAM method for endoscopic capsule robots. International Journal of Intelligent Robotics and Applications, 2017, 1, 399-409.	2.8	54
10	Applications of Photogrammetry to Structural Assessment. Experimental Techniques, 2012, 36, 71-81.	1.5	51
11	Neural correlates of different self domains. Brain and Behavior, 2015, 5, e00409.	2.2	48
12	Geometric Properties of Central Catadioptric Line Images. Lecture Notes in Computer Science, 2002, , 237-251.	1.3	47
13	Simulating pursuit with machine experiments with robots and artificial vision. IEEE Transactions on Automation Science and Engineering, 1998, 14, 1-18.	2.3	44
14	Calibration of Smooth Camera Models. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 2091-2103.	13.9	38
15	A Stereovision Method for Obstacle Detection and Tracking in Non-Flat Urban Environments. Autonomous Robots, 2005, 19, 141-157.	4.8	31
16	Automatic concrete health monitoring: assessment and monitoring of concrete surfaces. Structure and Infrastructure Engineering, 2014, 10, 1547-1554.	3.7	31
17	A review on egomotion by means of differential epipolar geometry applied to the movement of a mobile robot. Pattern Recognition, 2003, 36, 2927-2944.	8.1	30
18	Fitting conics to paracatadioptric projections of lines. Computer Vision and Image Understanding, 2006, 101, 151-165.	4.7	30

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19	Paracatadioptric camera calibration using lines. , 2003, , .		28
20	Robust image-based visual servoing using invariant visual information. Robotics and Autonomous Systems, 2013, 61, 1588-1600.	5.1	25
21	A deep learning based fusion of RGB camera information and magnetic localization information for endoscopic capsule robots. International Journal of Intelligent Robotics and Applications, 2017, 1, 442-450.	2.8	25
22	Pose Estimation for General Cameras Using Lines. IEEE Transactions on Cybernetics, 2015, 45, 2156-2164.	9.5	24
23	Crack propagation monitoring using an image deformation approach. Structural Control and Health Monitoring, 2017, 24, e1973.	4.0	22
24	Iterative multistep explicit camera calibration. IEEE Transactions on Automation Science and Engineering, 1999, 15, 897-917.	2.3	21
25	Direct Least Square Fitting of Paracatadioptric Line Images. , 2003, , .		21
26	Sparse-then-dense alignment-based 3D map reconstruction method for endoscopic capsule robots. Machine Vision and Applications, 2018, 29, 345-359.	2.7	20
27	Calibration of mirror position and extrinsic parameters in axial non-central catadioptric systems. Computer Vision and Image Understanding, 2013, 117, 909-921.	4.7	19
28	Influence of Data Distribution in Missing Data Imputation. Lecture Notes in Computer Science, 2017, , 285-294.	1.3	19
29	Visual servoing of mobile robots using non-central catadioptric cameras. Robotics and Autonomous Systems, 2014, 62, 1613-1622.	5.1	18
30	Learning to Navigate Endoscopic Capsule Robots. IEEE Robotics and Automation Letters, 2019, 4, 3075-3082.	5.1	16
31	Denial of Service Attacks: Detecting the Frailties of Machine Learning Algorithms in the Classification Process. Lecture Notes in Computer Science, 2019, , 230-235.	1.3	16
32	Iterative multi-step explicit camera calibration. , 0, , .		15
33	Active Stereo Tracking of $N\le 3$ Targets Using Line Scan Cameras. IEEE Transactions on Robotics, 2010, 26, 442-457.	10.3	15
34	Efficient Iterative Pose Estimation Using an Invariant to Rotations. IEEE Transactions on Cybernetics, 2014, 44, 199-207.	9.5	15
35	A robust and efficient framework for fast cylinder detection. Robotics and Autonomous Systems, 2019, 117, 17-28.	5.1	15
36	Optical Normal Flow Estimation on Log-polar Images. A Solution for Real-Time Binocular Vision. Real Time Imaging, 1997, 3, 213-228.	1.6	14

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37	Estimating parameters of noncentral catadioptric systems using bundle adjustment. Computer Vision and Image Understanding, 2009, 113, 11-28.	4.7	14
38	Involvement of cortical midline structures in the processing of autobiographical information. PeerJ, 2014, 2, e481.	2.0	13
39	Model predictive control to improve visual control of motion: applications in active tracking of moving targets. , 0, , .		11
40	Point-based calibration using a parametric representation of the general imaging model. , 2011, , .		11
41	Intel RealSense SR305, D415 and L515: Experimental Evaluation and Comparison of Depth Estimation. , 2021, , .		11
42	Stereoscopic Depth Perception Using a Model Based on the Primary Visual Cortex. PLoS ONE, 2013, 8, e80745.	2.5	10
43	Planar pose estimation for general cameras using known 3D lines. , 2014, , .		10
44	Visual Servoing and Pose Estimation with Cameras Obeying the Unified Model. Lecture Notes in Control and Information Sciences, 2010, , 231-250.	1.0	10
45	Link quality estimation in wireless multi-hop networks using Kernel based methods. Computer Networks, 2012, 56, 3629-3638.	5.1	9
46	Magnetic- Visual Sensor Fusion-based Dense 3D Reconstruction and Localization for Endoscopic Capsule Robots. , 2018, , .		9
47	A General Framework for the Selection of World Coordinate Systems in Perspective and Catadioptric Imaging Applications. International Journal of Computer Vision, 2004, 57, 23-47.	15.6	8
48	Generalized essential matrix: Properties of the singular value decomposition. Image and Vision Computing, 2015, 34, 45-50.	4.5	8
49	Investigating new calibration methods without feature detection for TOF cameras. Image and Vision Computing, 2015, 43, 50-62.	4.5	8
50	Robustified Structure from Motion with rolling-shutter camera using straightness constraint. Pattern Recognition Letters, 2018, 111, 1-8.	4.2	8
51	EndoSensorFusion: Particle Filtering-Based Multi-Sensory Data Fusion with Switching State-Space Model for Endoscopic Capsule Robots. , 2018, , .		8
52	FAWOS: Fairness-Aware Oversampling Algorithm Based on Distributions of Sensitive Attributes. IEEE Access, 2021, 9, 81370-81379.	4.2	8
53	An automatic system for dirt in pulp inspection using hierarchical image segmentation. Computers and Industrial Engineering, 1999, 37, 343-346.	6.3	7
54	Maintaining the relative positions and orientations of multiple robots using vision. Pattern Recognition Letters, 2001, 22, 1331-1335.	4.2	7

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55	Low-cost method for the estimation of the shape of quadric mirrors and calibration of catadioptric cameras. Optical Engineering, 2007, 46, 073001.	1.0	7
56	A simple and robust solution to the minimal general pose estimation. , 2014, , .		7
57	Direct Solution to the Minimal Generalized Pose. IEEE Transactions on Cybernetics, 2015, 45, 404-415.	9.5	7
58	On the advantages of foveal mechanisms for active stereo systems in visual search tasks. Autonomous Robots, 2018, 42, 459-476.	4.8	7
59	Visual behaviors for real-time control of a binocular active vision system. Control Engineering Practice, 1997, 5, 1451-1461.	5.5	6
60	Control performance issues in a binocular active vision system. , 0, , .		6
61	Integration of information from several vision systems for a common task of surveillance. Robotics and Autonomous Systems, 2000, 31, 99-108.	5.1	6
62	The interaction of luminance, velocity, and shape information in the perception of motion transparency, coherence, and non-rigid motion. Spatial Vision, 1993, 7, 149-182.	1.4	5
63	A surveillance system combining peripheral and foveated motion tracking. , 0, , .		5
64	Real-time human activity monitoring exploring multiple vision sensors. Robotics and Autonomous Systems, 2001, 35, 221-228.	5.1	5
65	Pose estimation for central catadioptric systems: an analytical approach. , 0, , .		5
66	Exploring the Effects of Data Distribution in Missing Data Imputation. Lecture Notes in Computer Science, 2018, , 251-263.	1.3	5
67	An automatic optical sensor for vessels and fibbers quality inspection in pulp production. Computers and Industrial Engineering, 1999, 37, 355-358.	6.3	4
68	Differential epipolar constraint in mobile robot egomotion estimation. , 0, , .		4
69	Non-central catadioptric cameras visual servoing for mobile robots using a radial camera model. , 2012, , .		4
70	Pose estimation for non-central cameras using planes. , 2014, , .		4
71	Registration of Consecutive Frames From Wireless Capsule Endoscopy for 3D Motion Estimation. IEEE Access, 2021, 9, 119533-119545.	4.2	4
72	Active stereo tracking of multiple free-moving targets. , 2009, , .		3

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73	Estimation of mirror shape and extrinsic parameters in axial non-central catadioptric systems. Image and Vision Computing, 2016, 54, 45-59.	4.5	3
74	Shape-based attention for identification and localization of cylindrical objects. , 2017, , .		3
75	Tracking multiple objects in 3D. , 0, , .		2
76	Combination of several vision sensors for interpretation of human actions. Lecture Notes in Control and Information Sciences, 2000, , 519-528.	1.0	2
77	Projection model, 3D reconstruction and rigid motion estimation from non-central catadioptric images. , 0, , .		2
78	Linear solution for the pose estimation of noncentral catadioptric systems. , 2007, , .		2
79	Image-based servoing of non-holonomic vehicles using non-central catadioptric cameras. , 2013, , .		2
80	Pose Estimation for Non-Central Cameras Using Planes. Journal of Intelligent and Robotic Systems: Theory and Applications, 2015, 80, 595-608.	3.4	2
81	Efficient Resource Allocation for Sparse Multiple Object Tracking. , 2017, , .		2
82	<title>Depth perception by controlling focus</title>. , 1992, , .		2
83	Real-time visual behaviors with a binocular active vision system. , 0, , .		1
84	<title>Grid-based framework for sensorial data integration in mobile robots</title>. , 1997, 3209, 169.		1
85	Estimation of 3d motion from stereo images - differential and discrete formulations. , 0, , .		1
86	Analysis and comparison of two methods for the estimation of 3D motion parameters. Robotics and Autonomous Systems, 2003, 45, 23-49.	5.1	1
87	Mirror shape recovery from image curves and intrinsic parameters: Rotationally symmetric and conic mirrors. , 2003, , .		1
88	Efficient decoupled pose estimation from a set of points. , 2013, , .		1
89	From D-RGB-based reconstruction toward a mesh deformation model for monocular reconstruction of isometric surfaces. Eurasip Journal on Image and Video Processing, 2016, 2016, .	2.6	1
90	3D Reconstruction with Low Resolution, Small Baseline and High Radial Distortion Stereo Images. , 2016, , .		1

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91	Biologically inspired computational modeling of motion based on middle temporal area. Paladyn, 2018, 9, 60-71.	2.7	1
92	Dynamic Obstacle Detection in Traffic Environments. , 2019, , .		1
93	3D Reconstruction of Deformable Objects from RGB-D Cameras: An Omnidirectional Inward-facing Multi-camera System. , 2021, , .		1
94	Computer Vision and Computer Graphics. Theory and Applications. Communications in Computer and Information Science, 2008, , .	0.5	1
95	Bio-inspired Binocular Disparity with Position-Shift Receptive Field. IFIP Advances in Information and Communication Technology, 2010, , 351-358.	0.7	1
96	3D Estimation of Isometric Surfaces Using a ToF-Based Approach. Lecture Notes in Computer Science, 2014, , 129-140.	1.3	1
97	Multi-modal Sensors Path Merging. Advances in Intelligent Systems and Computing, 2016, , 191-201.	0.6	1
98	SDPâ€based approach to monocular reconstruction of inextensible surfaces. IET Computer Vision, 2017, 11, 43-49.	2.0	1
99	Binocular tracking and accommodation controlled by retinal motion flow. , 0, , .		1
100	Gripper positioning for object deformation tasks. , 2022, , .		1
101	‹title›Study of transparency and coherence of motion in image sequences‹/title›. , 1994, 2179, 28.		0
102	Visual Behaviors for Real-Time Control of a Binocular Active Vision System. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 167-172.	0.4	0
103	A surveillance system integrating visual telepresence. , 0, , .		0
104	Intelligent Robotic Systems â€" SIRSâ€™99. Robotics and Autonomous Systems, 2001, 35, 127-130.	5.1	0
105	Rigid motion estimation from non-central catadioptric images. , 2004, , .		0
106	PlÃ¼cker correction problem: Analysis and improvements in efficiency. , 2016, , .		0
107	3D Estimation of Extensible Surfaces Through a Local Monocular Reconstruction Technique. Lecture Notes in Computer Science, 2017, , 114-123.	1.3	0
108	Patch-based reconstruction of surfaces undergoing different types of deformations. Signal, Image and Video Processing, 2017, 11, 1229-1236.	2.7	0

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109	A Calibration Algorithm for POX-Slits Camera. Lecture Notes in Computer Science, 2005, , 168-175.	1.3	0
110	The Experimental Robotics Framework. Lecture Notes in Computer Science, 2008, , 207-221.	1.3	0
111	Calibration and Pose Estimation of a Pox-slits Camera from a Single Image. Lecture Notes in Computer Science, 2008, , 460-469.	1.3	0
112	Control issues to improve visual control of motion: applications in active tracking of moving targets. , 2000, , .		0
113	SL3D - Single Look 3D Object Detection based on RGB-D Images. , 2020, , .		0
114	Active stereo tracking of multiple free-moving targets. , 2009, , .		0