Norbert Kruger

List of Publications by Year
in descending order

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Version: 2024-02-01

124 papers	4,520 citations	279798 23 h-index	114465 63 g-index
131 all docs	131 docs citations	131 times ranked	3089 citing authors

#	Article	IF	Citations
1	Face recognition by elastic bunch graph matching. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1997, 19, 775-779.	13.9	2,408
2	Deep Hierarchies in the Primate Visual Cortex: What Can We Learn for Computer Vision?. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1847-1871.	13.9	285
3	Objectâ€“Action Complexes: Grounded abstractions of sensoryâ€“motor processes. Robotics and Autonomous Systems, 2011, 59, 740-757.	5.1	127
4	Adaptation of manipulation skills in physical contact with the environment to reference force profiles. Autonomous Robots, 2015, 39, 199-217.	4.8	100
5	A strategy for grasping unknown objects based on co-planarity and colour information. Robotics and Autonomous Systems, 2010, 58, 551-565.	5.1	77
6	Symbols as Self-emergent Entities in an Optimization Process of Feature Extraction and Predictions. Biological Cybernetics, 2006, 94, 325-334.	1.3	67
7	Title is missing!. Neural Processing Letters, 1998, 8, 117-129.	3.2	62
8	BIRTH OF THE OBJECT: DETECTION OF OBJECTNESS AND EXTRACTION OF OBJECT SHAPE THROUGH OBJECTâ€“ACTION COMPLEXES. International Journal of Humanoid Robotics, 2008, 05, 247-265.	1.1	59
9	A Survey of the Ontogeny of Tool Use: From Sensorimotor Experience to Planning. IEEE Transactions on Autonomous Mental Development, 2013, 5, 18-45.	1.6	56
10	Pose estimation using local structure-specific shape and appearance context. , 2013, , .		56
11	A Simple Ontology of Manipulation Actions Based on Hand-Object Relations. IEEE Transactions on Autonomous Mental Development, 2013, 5, 117-134.	1.6	53
12	Solving peg-in-hole tasks by human demonstration and exception strategies. Industrial Robot, 2014, 41, 575-584.	2.1	52
13	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
14	Teaching a Robot the Semantics of Assembly Tasks. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2018, 48, 670-692.	9.3	46
15	Performance of Correspondence Algorithms in Vision-Based Driver Assistance Using an Online Image Sequence Database. IEEE Transactions on Vehicular Technology, 2011, 60, 2012-2026.	6.3	40
16	Continuous dimensionality characterization of image structures. Image and Vision Computing, 2009, 27, 628-636.	4.5	39
17	In Search of Inliers: 3D Correspondence by Local and Global Voting. , 2014, , .		36
18	A compact harmonic code for early vision based on anisotropic frequency channels. Computer Vision and Image Understanding, 2010, 114, 681-699.	4.7	29

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19	A performance evaluation of point pair features. Computer Vision and Image Understanding, 2018, 166, 66-80.	4.7	29
20	Improving object recognition by transforming Gabor filter responses. Network: Computation in Neural Systems, 1996, 7, 341-347.	3.6	28
21	Development of Object and Grasping Knowledge by Robot Exploration. IEEE Transactions on Autonomous Mental Development, 2010, 2, 368-383.	1.6	27
22	VISUAL PRIMITIVES: LOCAL, CONDENSED, SEMANTICALLY RICH VISUAL DESCRIPTORS AND THEIR APPLICATIONS IN ROBOTICS. International Journal of Humanoid Robotics, 2010, 07, 379-405.	1.1	27
23	Robot technology for future welfare: meeting upcoming societal challenges â€“ an outlook with offset in the development in Scandinavia. Health and Technology, 2019, 9, 197-218.	3.6	27
24	An Adaptive Robotic System for Doing Pick and Place Operations with Deformable Objects. Journal of Intelligent and Robotic Systems: Theory and Applications, 2019, 94, 81-100.	3.4	27
25	Teleoperation for learning by demonstration: Data glove versus object manipulation for intuitive robot control. , 2014, , .		25
26	Local shape feature fusion for improved matching, pose estimation and 3D object recognition. SpringerPlus, 2016, 5, 297.	1.2	25
27	Enabling grasping of unknown objects through a synergistic use of edge and surface information. International Journal of Robotics Research, 2012, 31, 1190-1213.	8.5	24
28	A cortical architecture on parallel hardware for motion processing in real time. Journal of Vision, 2010, 10, 18-18.	0.3	23
29	Refining grasp affordance models by experience. , 2010, , .		23
30	Learning visual representations for perception-action systems. International Journal of Robotics Research, 2011, 30, 294-307.	8.5	22
31	Structural Bootstrappingâ€”A Novel, Generative Mechanism for Faster and More Efficient Acquisition of Action-Knowledge. IEEE Transactions on Autonomous Mental Development, 2015, 7, 140-154.	1.6	21
32	Real-time extraction of surface patches with associated uncertainties by means of Kinect cameras. Journal of Real-Time Image Processing, 2015, 10, 105-118.	3.5	20
33	A comparison of feature detectors and descriptors for object class matching. Neurocomputing, 2016, 184, 3-12.	5.9	20
34	SMOOTH Robot: Design for a Novel Modular Welfare Robot. Journal of Intelligent and Robotic Systems: Theory and Applications, 2020, 98, 19-37.	3.4	19
35	An explicit and compact coding of geometric and structural image information applied to stereo processing. Pattern Recognition Letters, 2004, 25, 849-863.	4.2	18
36	VisGraB: A Benchmark for Vision-Based Grasping. Paladyn, 2012, 3, .	2.7	18

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37	Multi-view object recognition using view-point invariant shape relations and appearance information. , 2013, , .		18
38	Early Cognitive Vision: Using Gestalt-Laws for Task-Dependent, Active Image-Processing. Natural Computing, 2004, 3, 293-321.	3.0	17
39	Technologies for the Fast Set-Up of Automated Assembly Processes. KI - Kunstliche Intelligenz, 2014, 28, 305-313.	3.2	17
40	Multi-modal estimation of collinearity and parallelism in natural image sequences*. Network: Computation in Neural Systems, 2002, 13, 553-576.	3.6	17
41	Integrating multi-purpose natural language understanding, robotâ€™s memory, and symbolic planning for task execution in humanoid robots. Robotics and Autonomous Systems, 2018, 99, 148-165.	5.1	16
42	Accumulation of object representations utilising interaction of robot action and perception. Knowledge-Based Systems, 2002, 15, 111-118.	7.1	15
43	A two-level real-time vision machine combining coarse- and fine-grained parallelism. Journal of Real-Time Image Processing, 2010, 5, 291-304.	3.5	14
44	Early Reactive Grasping with Second Order 3D Feature Relations. Lecture Notes in Control and Information Sciences, 2007, , 91-105.	1.0	14
45	Learning Object Representations Using A Priori Constraints Within ORASSYLL. Neural Computation, 2001, 13, 389-410.	2.2	12
46	The Driving School System: Learning Basic Driving Skills From a Teacher in a Real Car. IEEE Transactions on Intelligent Transportation Systems, 2011, 12, 1135-1146.	8.0	12
47	Learning Objects and Grasp Affordances through Autonomous Exploration. Lecture Notes in Computer Science, 2009, , 235-244.	1.3	12
48	Learning Visual Representations for Interactive Systems. Springer Tracts in Advanced Robotics, 2011, , 399-416.	0.4	12
49	A Real-Time Embedded System for Stereo Vision Preprocessing Using an FPGA. , 2008, , .		11
50	Learning spatial relationships from 3D vision using histograms. , 2014, , .		11
51	Learning to grasp unknown objects based on 3D edge information. , 2009, , .		10
52	Task and context sensitive optimization of gripper design using dynamic grasp simulation. , 2015, , .		10
53	Multi-modal Primitives as Functional Models of Hyper-columns and Their Use for Contextual Integration. Lecture Notes in Computer Science, 2005, , 157-166.	1.3	10
54	A Large-Scale 3D Object Recognition Dataset. , 2016, , .		9

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55	Using spatial constraints for fast set-up of precise pose estimation in an industrial setting. , 2019, , .		9
56	A Probabilistic Definition of Intrinsic Dimensionality for Images. Lecture Notes in Computer Science, 2003, , 140-147.	1.3	9
57	Using multi-modal 3D contours and their relations for vision and robotics. Journal of Visual Communication and Image Representation, 2010, 21, 850-864.	2.8	8
58	Statistics-based segmentation using a continuous-scale naive Bayes approach. Computers and Electronics in Agriculture, 2014, 109, 271-277.	7.7	8
59	Compensating Pose Uncertainties through Appropriate Gripper Finger Cutouts. Acta Mechanica Et Automatica, 2018, 12, 78-83.	0.6	8
60	Statistical and Deterministic Regularities: Utilization of Motion and Grouping in Biological and Artificial Visual Systems. Advances in Imaging and Electron Physics, 2004, 131, 81-146.	0.2	7
61	Tracking with a Novel Pose Estimation Algorithm. Lecture Notes in Computer Science, 2001, , 9-18.	1.3	7
62	Comparison of Point and Line Features and Their Combination for Rigid Body Motion Estimation. Lecture Notes in Computer Science, 2009, , 280-304.	1.3	7
63	Multi-modal estimation of collinearity and parallelism in natural image sequences. Network: Computation in Neural Systems, 2002, 13, 553-576.	3.6	6
64	A Scene Representation Based on Multi-Modal 2D and 3D Features. , 2007, , .		6
65	Learning Object Relationships which determine the Outcome of Actions. Paladyn, 2012, 3, .	2.7	6
66	Multi-view object instance recognition in an industrial context. Robotica, 2017, 35, 271-292.	1.9	6
67	Automatic Evaluation of Task-Focused Parallel Jaw Gripper Design. Lecture Notes in Computer Science, 2014, , 450-461.	1.3	6
68	ORASSYLL: Object Recognition with Autonomously Learned and Sparse Symbolic Representations Based on Metrically Organized Local Line Detectors. Computer Vision and Image Understanding, 2000, 77, 48-77.	4.7	5
69	Tactile object exploration using cursor navigation sensors. , 2009, , .		5
70	Disparity disambiguation by fusion of signal- and symbolic-level information. Machine Vision and Applications, 2012, 23, 65-77.	2.7	5
71	A new benchmark for pose estimation with ground truth from virtual reality. Production Engineering, 2014, 8, 745-754.	2.3	5
72	Disambiguating Multiâ€“Modal Scene Representations Using Perceptual Grouping Constraints. PLoS ONE, 2010, 5, e10663.	2.5	5

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73	Designing Fingers in Simulation based on Imprints. , 2017, , .		5
74	Symbolic Pointillism: Computer Art Motivated by Human Brain Structures. Leonardo, 2005, 38, 337-340.	0.3	4
75	A Hybrid FPGA/Coarse Parallel Processing Architecture for Multi-modal Visual Feature Descriptors. , 2008, , .		4
76	Cut & recombine: reuse of robot action components based on simple language instructions. International Journal of Robotics Research, 2019, 38, 1179-1207.	8.5	4
77	Combined Optimization of Gripper Finger Design and Pose Estimation Processes for Advanced Industrial Assembly. , 2019, , .		4
78	Multi-modal Proactive Approaching of Humans for Human-Robot Cooperative Tasks. , 2021, , .		4
79	Three Dilemmas of Signal- and Symbol-Based Representations in Computer Vision. Lecture Notes in Computer Science, 2005, , 167-176.	1.3	4
80	Extraction of Object Representations from Stereo Image Sequences Utilizing Statistical and Deterministic Regularities in Visual Data. Lecture Notes in Computer Science, 2002, , 322-330.	1.3	4
81	Extended 3D Line Segments from RGB-D Data for Pose Estimation. Lecture Notes in Computer Science, 2013, , 54-65.	1.3	4
82	Ring on the hook: placing a ring on a moving and pendulating hook based on visual input. Industrial Robot, 2011, 38, 301-314.	2.1	3
83	Temporal accumulation of oriented visual features. Journal of Visual Communication and Image Representation, 2011, 22, 153-163.	2.8	3
84	Object detection using categorised 3D edges. Proceedings of SPIE, 2015, , .	0.8	3
85	Affordance Estimation Enhances Artificial Visual Attention: Evidence from a Change-Blindness Study. Cognitive Computation, 2015, 7, 526-538.	5.2	3
86	Optimizing Pick and Place Operations in a Simulated Work Cell For Deformable 3D Objects. Lecture Notes in Computer Science, 2015, , 431-444.	1.3	3
87	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
88	Error Feedback for Robust Learning from Demonstration. , 2015, , .		3
89	The Penguin â€“ On the Boundary Between Pet and Machine. An Ecological Perspective on the Design of Assistive Robots for Elderly Care. Lecture Notes in Computer Science, 2019, , 425-443.	1.3	3
90	Intention Indication for Human Aware Robot Navigation. , 2020, , .		3

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91	Multi-view object pose distribution tracking for pre-grasp planning on mobile robots. , 2022, , .		3
92	Spatial constraint identification of parts in SE3 for action optimization. , 2015, , .		2
93	What We Can Learn From the Primateâ€™s Visual System. KI - Kunstliche Intelligenz, 2015, 29, 9-18.	3.2	2
94	Object Detection Using a Combination of Multiple 3D Feature Descriptors. Lecture Notes in Computer Science, 2015, , 343-353.	1.3	2
95	Using surfaces and surface relations in an Early Cognitive Vision system. Machine Vision and Applications, 2015, 26, 933-954.	2.7	2
96	Accumulation of Different Visual Feature Descriptors in a Coherent Framework. Lecture Notes in Computer Science, 2011, , 79-90.	1.3	2
97	Context-aware Social Robot Navigation. , 2021, , .		2
98	Editorial: ECOVISION: Challenges in Early-Cognitive Vision. International Journal of Computer Vision, 2007, 72, 5-7.	15.6	1
99	Using 3D contours and their relations for cognitive vision and robotics. , 2009, , .		1
100	What a successful grasp tells about the success chances of grasps in its vicinity. , 2011, , .		1
101	Learning spatial relations between objects from 3D scenes. , 2013, , .		1
102	A Required Paradigm Shift in Todayâ€™s Vision Research. KI - Kunstliche Intelligenz, 2015, 29, 89-94.	3.2	1
103	Multi-label Object Categorization Using Histograms of Global Relations. , 2015, , .		1
104	On transferability and contexts when using simulated grasp databases. Robotica, 2015, 33, 1131-1146.	1.9	1
105	Teach it Yourself - Fast Modeling of Industrial Objects for 6D Pose Estimation. Lecture Notes in Computer Science, 2015, , 289-302.	1.3	1
106	Optimizing grippers for compensating pose uncertainties by dynamic simulation. , 2016, , .		1
107	Spatial-Temporal Junction Extraction and Semantic Interpretation. Lecture Notes in Computer Science, 2009, , 275-286.	1.3	1
108	Indoor Objects and Outdoor Urban Scenes Recognition by 3D Visual Primitives. Lecture Notes in Computer Science, 2015, , 270-285.	1.3	1

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109	Shape Dependency of ICP Pose Uncertainties in the Context of Pose Estimation Systems. Lecture Notes in Computer Science, 2015, , 303-315.	1.3	1
110	Extracting Categories by Hierarchical Clustering Using Global Relational Features. Lecture Notes in Computer Science, 2015, , 541-551.	1.3	1
111	Utilizing Semantic Interpretation of Junctions for 3D-2D Pose Estimation. , 2007, , 692-701.		1
112	Multi-modal estimation of collinearity and parallelism in natural image sequences. Network: Computation in Neural Systems, 2002, 13, 553-76.	3.6	1
113	Bibo theÂDancing Cup: Reminding People withÂDementia toÂDrink. Communications in Computer and Information Science, 2021, , 127-140.	0.5	1
114	HRI-Gestures: Gesture Recognition for Human-Robot Interaction. , 2022, , .		1
115	Coding of visual information in the brain. Network: Computation in Neural Systems, 2005, 16, 321-322.	3.6	0
116	Identifying relevant feature-action associations for grasping unmodelled objects. Paladyn, 2015, 6, .	2.7	0
117	Special Issue on Bio-inspired Vision Systems. KI - Kunstliche Intelligenz, 2015, 29, 5-7.	3.2	0
118	Automated Fixture Design Using an Imprint-Based Design Approach & Optimisation in Simulation. , 2019, , .		0
119	Context-aware Social Robot Navigation. , 2021, , .		0
120	Semantic Reasoning for Scene Interpretation. Lecture Notes in Computer Science, 2008, , 121-134.	1.3	0
121	Supervised Object Class Colour Normalisation. Lecture Notes in Computer Science, 2013, , 611-619.	1.3	0
122	Object Recognition with Representations Based on Sparsified Gabor Wavelets Used as Local Line Detectors. Lecture Notes in Computer Science, 1999, , 225-233.	1.3	0
123	Synthetic Ground Truth for Presegmentation of Known Objects for Effortless Pose Estimation. , 2020, , .		0
124	Donâ€™t Be Afraid! Design ofÂaÂPlayful Cleaning Robot forÂPeople withÂDementia. Communications in Computer and Information Science, 2021, , 141-155.	0.5	0