

Ales Ude

List of Publications by Year in descending order

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176
papers

4,059
citations

218381

26
h-index

174990

52
g-index

184
all docs

184
docs citations

184
times ranked

2203
citing authors

#	ARTICLE	IF	CITATIONS
1	Task-Specific Generalization of Discrete and Periodic Dynamic Movement Primitives. IEEE Transactions on Robotics, 2010, 26, 800-815.	7.3	292
2	Using humanoid robots to study human behavior. IEEE Intelligent Systems, 2000, 15, 46-56.	0.2	206
3	CB: a humanoid research platform for exploring neuroscience. Advanced Robotics, 2007, 21, 1097-1114.	1.1	165
4	Coupling Movement Primitives: Interaction With the Environment and Bimanual Tasks. IEEE Transactions on Robotics, 2014, 30, 816-830.	7.3	155
5	Programming full-body movements for humanoid robots by observation. Robotics and Autonomous Systems, 2004, 47, 93-108.	3.0	144
6	Orientation in Cartesian space dynamic movement primitives. , 2014, , .		135
7	The meaning of action: a review on action recognition and mapping. Advanced Robotics, 2007, 21, 1473-1501.	1.1	127
8	Object-Action Complexes: Grounded abstractions of sensory-motor processes. Robotics and Autonomous Systems, 2011, 59, 740-757.	3.0	127
9	Adaptive Control of Exoskeleton Robots for Periodic Assistive Behaviours Based on EMG Feedback Minimisation. PLoS ONE, 2016, 11, e0148942.	1.1	123
10	Adaptation of manipulation skills in physical contact with the environment to reference force profiles. Autonomous Robots, 2015, 39, 199-217.	3.2	100
11	On-line motion synthesis and adaptation using a trajectory database. Robotics and Autonomous Systems, 2012, 60, 1327-1339.	3.0	91
12	Learning Actions from Observations. IEEE Robotics and Automation Magazine, 2010, 17, 30-43.	2.2	84
13	Learning to pour with a robot arm combining goal and shape learning for dynamic movement primitives. Robotics and Autonomous Systems, 2011, 59, 910-922.	3.0	83
14	The Karlsruhe Humanoid Head. , 2008, , .		74
15	Learning Compliant Movement Primitives Through Demonstration and Statistical Generalization. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2581-2594.	3.7	62
16	Trajectory generation from noisy positions of object features for teaching robot paths. Robotics and Autonomous Systems, 1993, 11, 113-127.	3.0	59
17	CB: A Humanoid Research Platform for Exploring NeuroScience. , 2006, , .		56
18	A Simple Ontology of Manipulation Actions Based on Hand-Object Relations. IEEE Transactions on Autonomous Mental Development, 2013, 5, 117-134.	2.3	53

#	ARTICLE	IF	CITATIONS
19	Solving peg-in-hole tasks by human demonstration and exception strategies. <i>Industrial Robot</i> , 2014, 41, 575-584.	1.2	52
20	Human robot cooperation with compliance adaptation along the motion trajectory. <i>Autonomous Robots</i> , 2018, 42, 1023-1035.	3.2	51
21	Teaching a Robot the Semantics of Assembly Tasks. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2018, 48, 670-692.	5.9	46
22	Action sequencing using dynamic movement primitives. <i>Robotica</i> , 2012, 30, 837-846.	1.3	45
23	Planning of joint trajectories for humanoid robots using B-spline wavelets. , 0, , .		44
24	Generalization of orientation trajectories and force-torque profiles for robotic assembly. <i>Robotics and Autonomous Systems</i> , 2017, 98, 333-346.	3.0	44
25	Adaptation and coaching of periodic motion primitives through physical and visual interaction. <i>Robotics and Autonomous Systems</i> , 2016, 75, 340-351.	3.0	43
26	Filtering in a unit quaternion space for model-based object tracking. <i>Robotics and Autonomous Systems</i> , 1999, 28, 163-172.	3.0	42
27	LEARNING TO ACT FROM OBSERVATION AND PRACTICE. <i>International Journal of Humanoid Robotics</i> , 2004, 01, 585-611.	0.6	40
28	Smart hardware integration with advanced robot programming technologies for efficient reconfiguration of robot workcells. <i>Robotics and Computer-Integrated Manufacturing</i> , 2020, 66, 101979.	6.1	39
29	On-line periodic movement and force-profile learning for adaptation to new surfaces. , 2010, , .		37
30	Real-time visual system for interaction with a humanoid robot. <i>Robotics and Autonomous Systems</i> , 2001, 37, 115-125.	3.0	33
31	MAKING OBJECT LEARNING AND RECOGNITION AN ACTIVE PROCESS. <i>International Journal of Humanoid Robotics</i> , 2008, 05, 267-286.	0.6	33
32	Adapting to contacts: Energy tanks and task energy for passivity-based dynamic movement primitives. , 2017, , .		33
33	Distributed visual attention on a humanoid robot. , 0, , .		31
34	Foveated vision systems with two cameras per eye. , 0, , .		30
35	Autonomous acquisition of pushing actions to support object grasping with a humanoid robot. , 2009, , .		30
36	Transfer of assembly operations to new workpiece poses by adaptation to the desired force profile. , 2013, , .		27

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37	Training of deep neural networks for the generation of dynamic movement primitives. Neural Networks, 2020, 127, 121-131.	3.3	27
38	Analysis of human peg-in-hole executions in a robotic embodiment using uncertain grasps. , 2013, , .		26
39	Integrating visual perception and manipulation for autonomous learning of object representations. Adaptive Behavior, 2013, 21, 328-345.	1.1	25
40	Generalization of example movements with dynamic systems. , 2009, , .		24
41	Task adaptation through exploration and action sequencing. , 2009, , .		24
42	Advances in Robot Programming by Demonstration. KI - Kunstliche Intelligenz, 2010, 24, 295-303.	2.2	24
43	Skill learning and action recognition by arc-length dynamic movement primitives. Robotics and Autonomous Systems, 2018, 100, 225-235.	3.0	24
44	Accelerated Sensorimotor Learning of Compliant Movement Primitives. IEEE Transactions on Robotics, 2018, 34, 1636-1642.	7.3	24
45	Physical interaction for segmentation of unknown textured and non-textured rigid objects. , 2014, , .		23
46	Stereo-based Markerless Human Motion Capture for Humanoid Robot Systems. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	21
47	Velocity adaptation for self-improvement of skills learned from user demonstrations. , 2013, , .		21
48	Efficient sensorimotor learning from multiple demonstrations. Advanced Robotics, 2013, 27, 1023-1031.	1.1	21
49	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.	2.3	21
50	Toward a library of manipulation actions based on semantic object-action relations. , 2013, , .		20
51	Rapid hardware and software reconfiguration in a robotic workcell. , 2017, , .		20
52	Coaching: An Approach to Efficiently and Intuitively Create Humanoid Robot Behaviors. , 2006, , .		19
53	Real-time full body motion imitation on the COMAN humanoid robot. Robotica, 2015, 33, 1049-1061.	1.3	18
54	BIOLOGICALLY BASED TOP-DOWN ATTENTION MODULATION FOR HUMANOID INTERACTIONS. International Journal of Humanoid Robotics, 2008, 05, 3-24.	0.6	17

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55	Real-time 3D marker tracking with a WIIMOTE stereo vision system: Application to robotic throwing. , 2010, , .		17
56	Technologies for the Fast Set-Up of Automated Assembly Processes. KI - Kunstliche Intelligenz, 2014, 28, 305-313.	2.2	17
57	Extracting Objects for Aerial Manipulation on UAVs Using Low Cost Stereo Sensors. Sensors, 2016, 16, 700.	2.1	17
58	Robot skill learning in latent space of a deep autoencoder neural network. Robotics and Autonomous Systems, 2021, 135, 103690.	3.0	17
59	Passivity Based Iterative Learning of Admittance-Coupled Dynamic Movement Primitives for Interaction with Changing Environments. , 2018, , .		16
60	The AUTOWARE Framework and Requirements for the Cognitive Digital Automation. IFIP Advances in Information and Communication Technology, 2017, , 107-117.	0.5	16
61	Segmentation and learning of unknown objects through physical interaction. , 2011, , .		15
62	Motion capture and reinforcement learning of dynamically stable humanoid movement primitives. , 2013, , .		15
63	Learning and adaptation of periodic motion primitives based on force feedback and human coaching interaction. , 2014, , .		15
64	Peg-in-Hole assembly under uncertain pose estimation. , 2014, , .		15
65	Speed adaptation for self-improvement of skills learned from user demonstrations. Robotica, 2016, 34, 2806-2822.	1.3	15
66	Learning of assembly constraints by demonstration and active exploration. Industrial Robot, 2016, 43, 524-534.	1.2	15
67	An Efficient PbD Framework for Fast Deployment of Bi-Manual Assembly Tasks. , 2018, , .		15
68	Structural bootstrapping at the sensorimotor level for the fast acquisition of action knowledge for cognitive robots. , 2013, , .		14
69	Modulation of motor primitives using force feedback: Interaction with the environment and bimanual tasks. , 2013, , .		14
70	Adaptation of bimanual assembly tasks using iterative learning framework. , 2015, , .		14
71	Door opening by joining reinforcement learning and intelligent control. , 2017, , .		14
72	Synthesizing goal-directed actions from a library of example movements. , 2007, , .		13

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73	Motion imitation and recognition using parametric hidden Markov models. , 2008, , .		13
74	Exploiting previous experience to constrain robot sensorimotor learning. , 2011, , .		13
75	Learning of parametric coupling terms for robot-environment interaction. , 2015, , .		13
76	Bimanual human robot cooperation with adaptive stiffness control. , 2016, , .		13
77	Compliant movement primitives in a bimanual setting. , 2017, , .		12
78	A Virtual Mechanism Approach for Exploiting Functional Redundancy in Finishing Operations. IEEE Transactions on Automation Science and Engineering, 2021, 18, 2048-2060.	3.4	12
79	Analysis of Methods for Incremental Policy Refinement by Kinesthetic Guidance. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 102, 1.	2.0	12
80	Online approach for altering robot behaviors based on human in the loop coaching gestures. , 2014, , .		11
81	Force adaptation with recursive regression Iterative Learning Controller. , 2015, , .		11
82	Enhancing the performance of adaptive iterative learning control with reinforcement learning. , 2017, , .		11
83	Vision-Based Robot Path Planning. , 1994, , 505-512.		11
84	Online tracking and mimicking of human movements by a humanoid robot. Advanced Robotics, 2003, 17, 165-178.	1.1	10
85	Self-Supervised Online Learning of Basic Object Push Affordances. International Journal of Advanced Robotic Systems, 2015, 12, 24.	1.3	10
86	Generalization-Based Acquisition of Training Data for Motor Primitive Learning by Neural Networks. Applied Sciences (Switzerland), 2021, 11, 1013.	1.3	10
87	Synthesizing compliant reaching movements by searching a database of example trajectories. , 2013, , .		9
88	Online learning of task-specific dynamics for periodic tasks. , 2014, , .		9
89	Human-robot cooperation through force adaptation using dynamic motion primitives and iterative learning. , 2014, , .		9
90	On-line coaching of robots through visual and physical interaction: Analysis of effectiveness of human-robot interaction strategies. , 2016, , .		9

#	ARTICLE	IF	CITATIONS
91	Learning by Demonstration and Adaptation of Finishing Operations Using Virtual Mechanism Approach. , 2018, , .		9
92	Deep Encoder-Decoder Networks for Mapping Raw Images to Dynamic Movement Primitives. , 2018, , .		9
93	Programming full-body movements for humanoid robots by observation. Robotics and Autonomous Systems, 2004, 47, 93-93.	3.0	8
94	Object segmentation and learning through feature grouping and manipulation. , 2010, , .		8
95	Integrating surface-based hypotheses and manipulation for autonomous segmentation and learning of object representations. , 2012, , .		8
96	Applying statistical generalization to determine search direction for reinforcement learning of movement primitives. , 2012, , .		8
97	Synthesis of New Dynamic Movement Primitives Through Search in a Hierarchical Database of Example Movements. International Journal of Advanced Robotic Systems, 2015, 12, 137.	1.3	8
98	Transfer of contact skills to new environmental conditions. , 2016, , .		8
99	Compensating Pose Uncertainties through Appropriate Gripper Finger Cutouts. Acta Mechanica Et Automatica, 2018, 12, 78-83.	0.3	8
100	Learning feature representations for an object recognition system. , 2006, , .		7
101	Fast programming of Peg-in-hole Actions by human demonstration. , 2014, , .		7
102	Rich periodic motor skills on humanoid robots: Riding the pedal racer. , 2014, , .		7
103	Accelerating synchronization of movement primitives: Dual-arm discrete-periodic motion of a humanoid robot. , 2015, , .		7
104	Automatic Fingertip Exchange System for Robotic Grasping in Flexible Production Processes. , 2019, , .		7
105	Autonomous Learning of Assembly Tasks from the Corresponding Disassembly Tasks. , 2019, , .		7
106	Exoskeleton Arm Pronation/Supination Assistance Mechanism With A Guided Double Rod System. , 2019, , .		7
107	Specifying and optimizing robotic motion for visual quality inspection. Robotics and Computer-Integrated Manufacturing, 2021, 72, 102200.	6.1	7
108	Mechanical design and friction modelling of a cable-driven upper-limb exoskeleton. Mechanism and Machine Theory, 2022, 171, 104746.	2.7	7

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109	Sensorimotor processes for learning object representations. , 2007, , .		6
110	Optimizing parameters of trajectory representation for movement generalization: robotic throwing. , 2010, , .		6
111	Redundant control of a humanoid robot head with foveated vision for object tracking. , 2010, , .		6
112	Redundancy Control of a Humanoid Head for Foveation and Three-Dimensional Object Tracking: A Virtual Mechanism Approach. Advanced Robotics, 2010, 24, 2171-2197.	1.1	6
113	Speed profile optimization through directed explorative learning. , 2014, , .		6
114	Probabilistic semantic models for manipulation action representation and extraction. Robotics and Autonomous Systems, 2015, 65, 40-56.	3.0	6
115	Reconfigurable fixture evaluation for use in automotive light assembly. , 2017, , .		6
116	User Feedback in Latent Space Robotic Skill Learning. , 2018, , .		6
117	Digital innovation hubs for robotics â€” TRINITY approach for distributing knowledge via modular use case demonstrations. Procedia CIRP, 2021, 97, 45-50.	1.0	6
118	Robot learning by Gaussian process regression. , 2010, , .		5
119	Real-time generalization and integration of different movement primitives. , 2011, , .		5
120	Action-grounded push affordance bootstrapping of unknown objects. , 2013, , .		5
121	Comparison of action-grounded and non-action-grounded 3-D shape features for object affordance classification. , 2015, , .		5
122	Generalization of orientational motion in unit quaternion space. , 2016, , .		5
123	Trajectory representation by nonlinear scaling of dynamic movement primitives. , 2016, , .		5
124	Robot Skill Acquisition by Demonstration and Explorative Learning. Mechanisms and Machine Science, 2014, , 163-175.	0.3	5
125	Visual Inspection and Error Detection in a Reconfigurable Robot Workcell: An Automotive Light Assembly Example. , 2018, , .		5
126	Intention Recognition with Recurrent Neural Networks for Dynamic Human-Robot Collaboration. , 2021, , .		5

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127	Learning primitive actions through object exploration. , 2008, , .		4
128	Reinforcement learning of ball-in-a-cup playing robot. , 2011, , .		4
129	Constraining movement imitation with reflexive behavior: Robot squatting. , 2011, , .		4
130	Performing Periodic Tasks: On-Line Learning, Adaptation and Synchronization with External Signals. , 0, , .		4
131	Enhanced Policy Adaptation Through Directed Explorative Learning. International Journal of Humanoid Robotics, 2015, 12, 1550028.	0.6	4
132	Bio-inspired learning and database expansion of Compliant Movement Primitives. , 2015, , .		4
133	Reactive, task-specific object manipulation by metric reinforcement learning. , 2015, , .		4
134	Cut & recombine: reuse of robot action components based on simple language instructions. International Journal of Robotics Research, 2019, 38, 1179-1207.	5.8	4
135	Modular ROS-based software architecture for reconfigurable, Industry 4.0 compatible robotic workcells. , 2021, , .		4
136	Design of a Modular Robotic Workcell Platform Enabled by Plug & Produce Connectors. , 2021, , .		4
137	Stereo grouping for model-based recognition. , 1996, , .		3
138	CB: Exploring neuroscience with a humanoid research platform. , 2008, , .		3
139	Object Learning through Interactive Manipulation and Foveated Vision. , 2013, , .		3
140	Building object models through interactive perception and foveated vision. Advanced Robotics, 2015, 29, 611-623.	1.1	3
141	A Review of Compliant Movement Primitives. , 0, , .		3
142	Hammering Does Not Fit Fitts' Law. Frontiers in Computational Neuroscience, 2017, 11, 45.	1.2	3
143	Adaptive Human Robot Cooperation Scheme for Bimanual Robots. Springer Proceedings in Advanced Robotics, 2018, , 371-380.	0.9	3
144	Learning Task-Specific Dynamics to Improve Whole-Body Control. , 2018, , .		3

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145	Learning to Write Anywhere with Spatial Transformer Image-to-Motion Encoder-Decoder Networks. , 2019, , .		3
146	Learning of Exception Strategies in Assembly Tasks. , 2020, , .		3
147	Reconstructing Spatial Aspects of Motion by Image-to-Path Deep Neural Networks. IEEE Robotics and Automation Letters, 2021, 6, 255-262.	3.3	3
148	Discovering New Motor Primitives in Transition Graphs. Advances in Intelligent Systems and Computing, 2013, , 219-230.	0.5	3
149	Integration of a reconfigurable robotic workcell for assembly operations in automotive industry. , 2022, , .		3
150	Simulation-Aided Handover Prediction From Video Using Recurrent Image-to-Motion Networks. IEEE Transactions on Neural Networks and Learning Systems, 2024, 35, 494-506.	7.2	3
151	Rapid state machine assembly for modular robot control using meta-scripting, templating and code generation. , 2017, , .		2
152	Incremental Policy Refinement by Recursive Regression and Kinesthetic Guidance. , 2019, , .		2
153	Robotic Learning for Increased Productivity: Autonomously Improving Speed of Robotic Visual Quality Inspection. , 2019, , .		2
154	Shaping Biological Motion: Adding realistic form cues to biological motion displays. Journal of Vision, 2010, 2, 336-336.	0.1	2
155	Technical Maturity for Industrial Deployment of Robot Demonstrators. , 2021, , .		2
156	Control and recognition on a humanoid head with cameras having different field of view. , 2008, , .		1
157	Estimation of Cartesian Space Robot Trajectories Using Unit Quaternion Space. International Journal of Advanced Robotic Systems, 2014, 11, 137.	1.3	1
158	Pushing and grasping for autonomous learning of object models with foveated vision. , 2015, , .		1
159	Exploration in structured space of robot movements for autonomous augmentation of action knowledge. , 2015, , .		1
160	Optimizing grippers for compensating pose uncertainties by dynamic simulation. , 2016, , .		1
161	Cooperative movements through hierarchical database search. , 2017, , .		1
162	Learning of Robotic Throwing at a Target using a Qualitative Learning Reward. , 2019, , .		1

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163	Reduction of Trajectory Encoding Data Using a Deep Autoencoder Network: Robotic Throwing. Advances in Intelligent Systems and Computing, 2020, , 86-94.	0.5	1
164	Knowledge Acquisition Through Human Demonstration for Industrial Robotic Assembly. Advances in Intelligent Systems and Computing, 2020, , 346-353.	0.5	1
165	Foveal Vision for Humanoid Robots. Frontiers in Neuroengineering Series, 2014, , 103-120.	0.4	1
166	Adaptation of Motor Primitives to the Environment Through Learning and Statistical Generalization. Advances in Intelligent Systems and Computing, 2016, , 449-457.	0.5	1
167	Autonomous Learning of Internal Dynamic Models for Reaching Tasks. Advances in Intelligent Systems and Computing, 2016, , 439-447.	0.5	1
168	Manipulation Learning on Humanoid Robots. Current Robotics Reports, 0, , .	5.1	1
169	Active humanoid vision and object classification. , 2009, , .		0
170	New Motor Primitives through Graph Search, Interpolation and Generalization. Studies in Computational Intelligence, 2013, , 137-148.	0.7	0
171	Generalization of discrete Compliant Movement Primitives. , 2015, , .		0
172	Action-grounded surface geometry and volumetric shape feature representations for object affordance prediction. , 2016, , .		0
173	Recent Advances in Intelligent Robots at J. Stefan Institute. Studies in Computational Intelligence, 2009, , 235-245.	0.7	0
174	Base Frame Calibration of a Reconfigurable Multi-robot System with Kinesthetic Guidance. Mechanisms and Machine Science, 2019, , 651-659.	0.3	0
175	Generalization Based Database Acquisition for Robot Learning in Reduced Space. Mechanisms and Machine Science, 2020, , 496-504.	0.3	0
176	A New Phase Determination Algorithm for Iterative Learning of Human-Robot Collaboration. , 2021, , .		0