

# 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	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
2	Mechanical design and friction modelling of a cable-driven upper-limb exoskeleton. Mechanism and Machine Theory, 2022, 171, 104746.	2.7	7
3	Integration of a reconfigurable robotic workcell for assembly operations in automotive industry. , 2022, , .		3
4	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
5	Robot skill learning in latent space of a deep autoencoder neural network. Robotics and Autonomous Systems, 2021, 135, 103690.	3.0	17
6	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
7	Reconstructing Spatial Aspects of Motion by Image-to-Path Deep Neural Networks. IEEE Robotics and Automation Letters, 2021, 6, 255-262.	3.3	3
8	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
9	Specifying and optimizing robotic motion for visual quality inspection. Robotics and Computer-Integrated Manufacturing, 2021, 72, 102200.	6.1	7
10	Generalization-Based Acquisition of Training Data for Motor Primitive Learning by Neural Networks. Applied Sciences (Switzerland), 2021, 11, 1013.	1.3	10
11	Modular ROS-based software architecture for reconfigurable, Industry 4.0 compatible robotic workcells. , 2021, , .		4
12	Intention Recognition with Recurrent Neural Networks for Dynamic Human-Robot Collaboration. , 2021, , .		5
13	Technical Maturity for Industrial Deployment of Robot Demonstrators. , 2021, , .		2
14	A New Phase Determination Algorithm for Iterative Learning of Human-Robot Collaboration. , 2021, , .		0
15	Design of a Modular Robotic Workcell Platform Enabled by Plug & Produce Connectors. , 2021, , .		4
16	Reduction of Trajectory Encoding Data Using a Deep Autoencoder Network: Robotic Throwing. Advances in Intelligent Systems and Computing, 2020, , 86-94.	0.5	1
17	Knowledge Acquisition Through Human Demonstration for Industrial Robotic Assembly. Advances in Intelligent Systems and Computing, 2020, , 346-353.	0.5	1
18	Learning of Exception Strategies in Assembly Tasks. , 2020, , .		3

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19	Training of deep neural networks for the generation of dynamic movement primitives. Neural Networks, 2020, 127, 121-131.	3.3	27
20	Smart hardware integration with advanced robot programming technologies for efficient reconfiguration of robot workcells. Robotics and Computer-Integrated Manufacturing, 2020, 66, 101979.	6.1	39
21	Generalization Based Database Acquisition for Robot Learning in Reduced Space. Mechanisms and Machine Science, 2020, , 496-504.	0.3	0
22	Cut & recombine: reuse of robot action components based on simple language instructions. International Journal of Robotics Research, 2019, 38, 1179-1207.	5.8	4
23	Learning to Write Anywhere with Spatial Transformer Image-to-Motion Encoder-Decoder Networks. , 2019, , .		3
24	Incremental Policy Refinement by Recursive Regression and Kinesthetic Guidance. , 2019, , .		2
25	Automatic Fingertip Exchange System for Robotic Grasping in Flexible Production Processes. , 2019, , .		7
26	Learning of Robotic Throwing at a Target using a Qualitative Learning Reward. , 2019, , .		1
27	Autonomous Learning of Assembly Tasks from the Corresponding Disassembly Tasks. , 2019, , .		7
28	Robotic Learning for Increased Productivity: Autonomously Improving Speed of Robotic Visual Quality Inspection. , 2019, , .		2
29	Exoskeleton Arm Pronation/Supination Assistance Mechanism With A Guided Double Rod System. , 2019, , .		7
30	Base Frame Calibration of a Reconfigurable Multi-robot System with Kinesthetic Guidance. Mechanisms and Machine Science, 2019, , 651-659.	0.3	0
31	Teaching a Robot the Semantics of Assembly Tasks. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2018, 48, 670-692.	5.9	46
32	Adaptive Human Robot Cooperation Scheme for Bimanual Robots. Springer Proceedings in Advanced Robotics, 2018, , 371-380.	0.9	3
33	Skill learning and action recognition by arc-length dynamic movement primitives. Robotics and Autonomous Systems, 2018, 100, 225-235.	3.0	24
34	Human robot cooperation with compliance adaptation along the motion trajectory. Autonomous Robots, 2018, 42, 1023-1035.	3.2	51
35	User Feedback in Latent Space Robotic Skill Learning. , 2018, , .		6
36	Learning Task-Specific Dynamics to Improve Whole-Body Control. , 2018, , .		3

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37	An Efficient PbD Framework for Fast Deployment of Bi-Manual Assembly Tasks. , 2018, , .		15
38	Learning by Demonstration and Adaptation of Finishing Operations Using Virtual Mechanism Approach. , 2018, , .		9
39	Passivity Based Iterative Learning of Admittance-Coupled Dynamic Movement Primitives for Interaction with Changing Environments. , 2018, , .		16
40	Deep Encoder-Decoder Networks for Mapping Raw Images to Dynamic Movement Primitives. , 2018, , .		9
41	Accelerated Sensorimotor Learning of Compliant Movement Primitives. IEEE Transactions on Robotics, 2018, 34, 1636-1642.	7.3	24
42	Visual Inspection and Error Detection in a Reconfigurable Robot Workcell: An Automotive Light Assembly Example. , 2018, , .		5
43	Compensating Pose Uncertainties through Appropriate Gripper Finger Cutouts. Acta Mechanica Et Automatica, 2018, 12, 78-83.	0.3	8
44	Generalization of orientation trajectories and force-torque profiles for robotic assembly. Robotics and Autonomous Systems, 2017, 98, 333-346.	3.0	44
45	Door opening by joining reinforcement learning and intelligent control. , 2017, , .		14
46	Rapid hardware and software reconfiguration in a robotic workcell. , 2017, , .		20
47	Adapting to contacts: Energy tanks and task energy for passivity-based dynamic movement primitives. , 2017, , .		33
48	Cooperative movements through hierarchical database search. , 2017, , .		1
49	Enhancing the performance of adaptive iterative learning control with reinforcement learning. , 2017, , .		11
50	Compliant movement primitives in a bimanual setting. , 2017, , .		12
51	Rapid state machine assembly for modular robot control using meta-scripting, templating and code generation. , 2017, , .		2
52	Hammering Does Not Fit Fitts' Law. Frontiers in Computational Neuroscience, 2017, 11, 45.	1.2	3
53	Reconfigurable fixture evaluation for use in automotive light assembly. , 2017, , .		6
54	The AUTOWARE Framework and Requirements for the Cognitive Digital Automation. IFIP Advances in Information and Communication Technology, 2017, , 107-117.	0.5	16

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55	Extracting Objects for Aerial Manipulation on UAVs Using Low Cost Stereo Sensors. <i>Sensors</i> , 2016, 16, 700.	2.1	17
56	On-line coaching of robots through visual and physical interaction: Analysis of effectiveness of human-robot interaction strategies. , 2016, , .		9
57	Optimizing grippers for compensating pose uncertainties by dynamic simulation. , 2016, , .		1
58	Bimanual human robot cooperation with adaptive stiffness control. , 2016, , .		13
59	Transfer of contact skills to new environmental conditions. , 2016, , .		8
60	Generalization of orientational motion in unit quaternion space. , 2016, , .		5
61	Action-grounded surface geometry and volumetric shape feature representations for object affordance prediction. , 2016, , .		0
62	Trajectory representation by nonlinear scaling of dynamic movement primitives. , 2016, , .		5
63	Speed adaptation for self-improvement of skills learned from user demonstrations. <i>Robotica</i> , 2016, 34, 2806-2822.	1.3	15
64	Learning of assembly constraints by demonstration and active exploration. <i>Industrial Robot</i> , 2016, 43, 524-534.	1.2	15
65	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
66	Learning Compliant Movement Primitives Through Demonstration and Statistical Generalization. <i>IEEE/ASME Transactions on Mechatronics</i> , 2016, 21, 2581-2594.	3.7	62
67	Adaptive Control of Exoskeleton Robots for Periodic Assistive Behaviours Based on EMG Feedback Minimisation. <i>PLoS ONE</i> , 2016, 11, e0148942.	1.1	123
68	Adaptation of Motor Primitives to the Environment Through Learning and Statistical Generalization. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 449-457.	0.5	1
69	Autonomous Learning of Internal Dynamic Models for Reaching Tasks. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 439-447.	0.5	1
70	Enhanced Policy Adaptation Through Directed Explorative Learning. <i>International Journal of Humanoid Robotics</i> , 2015, 12, 1550028.	0.6	4
71	Generalization of discrete Compliant Movement Primitives. , 2015, , .		0
72	Self-Supervised Online Learning of Basic Object Push Affordances. <i>International Journal of Advanced Robotic Systems</i> , 2015, 12, 24.	1.3	10

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73	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
74	Pushing and grasping for autonomous learning of object models with foveated vision. , 2015, , .		1
75	Adaptation of bimanual assembly tasks using iterative learning framework. , 2015, , .		14
76	Learning of parametric coupling terms for robot-environment interaction. , 2015, , .		13
77	Accelerating synchronization of movement primitives: Dual-arm discrete-periodic motion of a humanoid robot. , 2015, , .		7
78	Force adaptation with recursive regression Iterative Learning Controller. , 2015, , .		11
79	Bio-inspired learning and database expansion of Compliant Movement Primitives. , 2015, , .		4
80	Comparison of action-grounded and non-action-grounded 3-D shape features for object affordance classification. , 2015, , .		5
81	Probabilistic semantic models for manipulation action representation and extraction. Robotics and Autonomous Systems, 2015, 65, 40-56.	3.0	6
82	Real-time full body motion imitation on the COMAN humanoid robot. Robotica, 2015, 33, 1049-1061.	1.3	18
83	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
84	Building object models through interactive perception and foveated vision. Advanced Robotics, 2015, 29, 611-623.	1.1	3
85	Adaptation of manipulation skills in physical contact with the environment to reference force profiles. Autonomous Robots, 2015, 39, 199-217.	3.2	100
86	Exploration in structured space of robot movements for autonomous augmentation of action knowledge. , 2015, , .		1
87	Reactive, task-specific object manipulation by metric reinforcement learning. , 2015, , .		4
88	Speed profile optimization through directed explorative learning. , 2014, , .		6
89	Learning and adaptation of periodic motion primitives based on force feedback and human coaching interaction. , 2014, , .		15
90	Technologies for the Fast Set-Up of Automated Assembly Processes. KI - Kunstliche Intelligenz, 2014, 28, 305-313.	2.2	17

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91	Online learning of task-specific dynamics for periodic tasks. , 2014, , .		9
92	Peg-in-Hole assembly under uncertain pose estimation. , 2014, , .		15
93	Fast programming of Peg-in-hole Actions by human demonstration. , 2014, , .		7
94	Human-robot cooperation through force adaptation using dynamic motion primitives and iterative learning. , 2014, , .		9
95	Rich periodic motor skills on humanoid robots: Riding the pedal racer. , 2014, , .		7
96	Physical interaction for segmentation of unknown textured and non-textured rigid objects. , 2014, , .		23
97	Online approach for altering robot behaviors based on human in the loop coaching gestures. , 2014, , .		11
98	Orientation in Cartesian space dynamic movement primitives. , 2014, , .		135
99	Coupling Movement Primitives: Interaction With the Environment and Bimanual Tasks. IEEE Transactions on Robotics, 2014, 30, 816-830.	7.3	155
100	Estimation of Cartesian Space Robot Trajectories Using Unit Quaternion Space. International Journal of Advanced Robotic Systems, 2014, 11, 137.	1.3	1
101	Solving peg-in-hole tasks by human demonstration and exception strategies. Industrial Robot, 2014, 41, 575-584.	1.2	52
102	Robot Skill Acquisition by Demonstration and Explorative Learning. Mechanisms and Machine Science, 2014, , 163-175.	0.3	5
103	Foveal Vision for Humanoid Robots. Frontiers in Neuroengineering Series, 2014, , 103-120.	0.4	1
104	A Simple Ontology of Manipulation Actions Based on Hand-Object Relations. IEEE Transactions on Autonomous Mental Development, 2013, 5, 117-134.	2.3	53
105	Transfer of assembly operations to new workpiece poses by adaptation to the desired force profile. , 2013, , .		27
106	Analysis of human peg-in-hole executions in a robotic embodiment using uncertain grasps. , 2013, , .		26
107	Structural bootstrapping at the sensorimotor level for the fast acquisition of action knowledge for cognitive robots. , 2013, , .		14
108	New Motor Primitives through Graph Search, Interpolation and Generalization. Studies in Computational Intelligence, 2013, , 137-148.	0.7	0

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109	Motion capture and reinforcement learning of dynamically stable humanoid movement primitives. , 2013, , .		15
110	Object Learning through Interactive Manipulation and Foveated Vision. , 2013, , .		3
111	Synthesizing compliant reaching movements by searching a database of example trajectories. , 2013, , .		9
112	Velocity adaptation for self-improvement of skills learned from user demonstrations. , 2013, , .		21
113	Modulation of motor primitives using force feedback: Interaction with the environment and bimanual tasks. , 2013, , .		14
114	Toward a library of manipulation actions based on semantic object-action relations. , 2013, , .		20
115	Efficient sensorimotor learning from multiple demonstrations. <i>Advanced Robotics</i> , 2013, 27, 1023-1031.	1.1	21
116	Action-grounded push affordance bootstrapping of unknown objects. , 2013, , .		5
117	Integrating visual perception and manipulation for autonomous learning of object representations. <i>Adaptive Behavior</i> , 2013, 21, 328-345.	1.1	25
118	Discovering New Motor Primitives in Transition Graphs. <i>Advances in Intelligent Systems and Computing</i> , 2013, , 219-230.	0.5	3
119	Integrating surface-based hypotheses and manipulation for autonomous segmentation and learning of object representations. , 2012, , .		8
120	Action sequencing using dynamic movement primitives. <i>Robotica</i> , 2012, 30, 837-846.	1.3	45
121	Applying statistical generalization to determine search direction for reinforcement learning of movement primitives. , 2012, , .		8
122	On-line motion synthesis and adaptation using a trajectory database. <i>Robotics and Autonomous Systems</i> , 2012, 60, 1327-1339.	3.0	91
123	Segmentation and learning of unknown objects through physical interaction. , 2011, , .		15
124	Real-time generalization and integration of different movement primitives. , 2011, , .		5
125	Reinforcement learning of ball-in-a-cup playing robot. , 2011, , .		4
126	Exploiting previous experience to constrain robot sensorimotor learning. , 2011, , .		13



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127	Object-Action Complexes: Grounded abstractions of sensory-motor processes. Robotics and Autonomous Systems, 2011, 59, 740-757.	3.0	127
128	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
129	Constraining movement imitation with reflexive behavior: Robot squatting. , 2011, , .		4
130	Advances in Robot Programming by Demonstration. KI - Kunstliche Intelligenz, 2010, 24, 295-303.	2.2	24
131	Learning Actions from Observations. IEEE Robotics and Automation Magazine, 2010, 17, 30-43.	2.2	84
132	Optimizing parameters of trajectory representation for movement generalization: robotic throwing. , 2010, , .		6
133	Task-Specific Generalization of Discrete and Periodic Dynamic Movement Primitives. IEEE Transactions on Robotics, 2010, 26, 800-815.	7.3	292
134	Redundant control of a humanoid robot head with foveated vision for object tracking. , 2010, , .		6
135	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
136	Real-time 3D marker tracking with a WIIMOTE stereo vision system: Application to robotic throwing. , 2010, , .		17
137	Object segmentation and learning through feature grouping and manipulation. , 2010, , .		8
138	On-line periodic movement and force-profile learning for adaptation to new surfaces. , 2010, , .		37
139	Robot learning by Gaussian process regression. , 2010, , .		5
140	Shaping Biological Motion: Adding realistic form cues to biological motion displays. Journal of Vision, 2010, 2, 336-336.	0.1	2
141	Autonomous acquisition of pushing actions to support object grasping with a humanoid robot. , 2009, , .		30
142	Active humanoid vision and object classification. , 2009, , .		0
143	Generalization of example movements with dynamic systems. , 2009, , .		24
144	Task adaptation through exploration and action sequencing. , 2009, , .		24

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145	Recent Advances in Intelligent Robots at J. Stefan Institute. Studies in Computational Intelligence, 2009, , 235-245.	0.7	0
146	Motion imitation and recognition using parametric hidden Markov models. , 2008, , .		13
147	Learning primitive actions through object exploration. , 2008, , .		4
148	Control and recognition on a humanoid head with cameras having different field of view. , 2008, , .		1
149	BIOLOGICALLY BASED TOP-DOWN ATTENTION MODULATION FOR HUMANOID INTERACTIONS. International Journal of Humanoid Robotics, 2008, 05, 3-24.	0.6	17
150	CB: Exploring neuroscience with a humanoid research platform. , 2008, , .		3
151	The Karlsruhe Humanoid Head. , 2008, , .		74
152	MAKING OBJECT LEARNING AND RECOGNITION AN ACTIVE PROCESS. International Journal of Humanoid Robotics, 2008, 05, 267-286.	0.6	33
153	CB: a humanoid research platform for exploring neuroscience. Advanced Robotics, 2007, 21, 1097-1114.	1.1	165
154	Stereo-based Markerless Human Motion Capture for Humanoid Robot Systems. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	21
155	The meaning of action: a review on action recognition and mapping. Advanced Robotics, 2007, 21, 1473-1501.	1.1	127
156	Synthesizing goal-directed actions from a library of example movements. , 2007, , .		13
157	Sensorimotor processes for learning object representations. , 2007, , .		6
158	Coaching: An Approach to Efficiently and Intuitively Create Humanoid Robot Behaviors. , 2006, , .		19
159	CB: A Humanoid Research Platform for Exploring NeuroScience. , 2006, , .		56
160	Learning feature representations for an object recognition system. , 2006, , .		7
161	LEARNING TO ACT FROM OBSERVATION AND PRACTICE. International Journal of Humanoid Robotics, 2004, 01, 585-611.	0.6	40
162	Programming full-body movements for humanoid robots by observation. Robotics and Autonomous Systems, 2004, 47, 93-108.	3.0	144

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163	Programming full-body movements for humanoid robots by observation. Robotics and Autonomous Systems, 2004, 47, 93-93.	3.0	8
164	Online tracking and mimicking of human movements by a humanoid robot. Advanced Robotics, 2003, 17, 165-178.	1.1	10
165	Real-time visual system for interaction with a humanoid robot. Robotics and Autonomous Systems, 2001, 37, 115-125.	3.0	33
166	Using humanoid robots to study human behavior. IEEE Intelligent Systems, 2000, 15, 46-56.	0.2	206
167	Filtering in a unit quaternion space for model-based object tracking. Robotics and Autonomous Systems, 1999, 28, 163-172.	3.0	42
168	Stereo grouping for model-based recognition. , 1996, , .		3
169	Vision-Based Robot Path Planning. , 1994, , 505-512.		11
170	Trajectory generation from noisy positions of object features for teaching robot paths. Robotics and Autonomous Systems, 1993, 11, 113-127.	3.0	59
171	Planning of joint trajectories for humanoid robots using B-spline wavelets. , 0, , .		44
172	Distributed visual attention on a humanoid robot. , 0, , .		31
173	Foveated vision systems with two cameras per eye. , 0, , .		30
174	Performing Periodic Tasks: On-Line Learning, Adaptation and Synchronization with External Signals. , 0, , .		4
175	A Review of Compliant Movement Primitives. , 0, , .		3
176	Manipulation Learning on Humanoid Robots. Current Robotics Reports, 0, , .	5.1	1