

Aude G Billard

List of Publications by Year in descending order

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Version: 2024-02-01

159
papers

10,160
citations

53660

45
h-index

49773

87
g-index

162
all docs

162
docs citations

162
times ranked

5873
citing authors

#	ARTICLE	IF	CITATIONS
1	On Learning, Representing, and Generalizing a Task in a Humanoid Robot. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 286-298.	5.5	817
2	Robot Programming by Demonstration. , 2008, , 1371-1394.		691
3	Learning Stable Nonlinear Dynamical Systems With Gaussian Mixture Models. IEEE Transactions on Robotics, 2011, 27, 943-957.	7.3	500
4	Computational approaches to motor learning by imitation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2003, 358, 537-547.	1.8	431
5	Trends and challenges in robot manipulation. Science, 2019, 364, .	6.0	380
6	Learning and Reproduction of Gestures by Imitation. IEEE Robotics and Automation Magazine, 2010, 17, 44-54.	2.2	359
7	Recent Advances in Robot Learning from Demonstration. Annual Review of Control, Robotics, and Autonomous Systems, 2020, 3, 297-330.	7.5	311
8	A survey of Tactile Human-Robot Interactions. Robotics and Autonomous Systems, 2010, 58, 1159-1176.	3.0	284
9	Incremental learning of gestures by imitation in a humanoid robot. , 2007, , .		208
10	Dynamical System Modulation for Robot Learning via Kinesthetic Demonstrations. IEEE Transactions on Robotics, 2008, 24, 1463-1467.	7.3	197
11	A dynamical system approach to realtime obstacle avoidance. Autonomous Robots, 2012, 32, 433-454.	3.2	186
12	Roombots: Reconfigurable Robots for Adaptive Furniture. IEEE Computational Intelligence Magazine, 2010, 5, 20-32.	3.4	185
13	Building Robota, a Mini-Humanoid Robot for the Rehabilitation of Children With Autism. Assistive Technology, 2007, 19, 37-49.	1.2	177
14	Catching Objects in Flight. IEEE Transactions on Robotics, 2014, 30, 1049-1065.	7.3	166
15	Stability Considerations for Variable Impedance Control. IEEE Transactions on Robotics, 2016, 32, 1298-1305.	7.3	160
16	Discriminative and adaptive imitation in uni-manual and bi-manual tasks. Robotics and Autonomous Systems, 2006, 54, 370-384.	3.0	149
17	Safety issues in human-robot interactions. , 2013, , .		144
18	Title is missing!. Autonomous Robots, 2001, 11, 149-171.	3.2	143

#	ARTICLE	IF	CITATIONS
19	Discovering optimal imitation strategies. <i>Robotics and Autonomous Systems</i> , 2004, 47, 69-77.	3.0	140
20	Learning human arm movements by imitation:. <i>Robotics and Autonomous Systems</i> , 2001, 37, 145-160.	3.0	136
21	Learning control Lyapunov function to ensure stability of dynamical system-based robot reaching motions. <i>Robotics and Autonomous Systems</i> , 2014, 62, 752-765.	3.0	133
22	Motion learning and adaptive impedance for robot control during physical interaction with humans. , 2011, , .		129
23	Learning from Humans. <i>Springer Handbooks</i> , 2016, , 1995-2014.	0.3	127
24	Robota: Clever toy and educational tool. <i>Robotics and Autonomous Systems</i> , 2003, 42, 259-269.	3.0	101
25	Reinforcement learning for imitating constrained reaching movements. <i>Advanced Robotics</i> , 2007, 21, 1521-1544.	1.1	99
26	Estimating the non-linear dynamics of free-flying objects. <i>Robotics and Autonomous Systems</i> , 2012, 60, 1108-1122.	3.0	98
27	Investigating Gaze of Children with ASD in Naturalistic Settings. <i>PLoS ONE</i> , 2012, 7, e44144.	1.1	93
28	Shared humanâ€™robot proportional control of a dexterous myoelectric prosthesis. <i>Nature Machine Intelligence</i> , 2019, 1, 400-411.	8.3	91
29	Statistical Learning by Imitation of Competing Constraints in Joint Space and Task Space. <i>Advanced Robotics</i> , 2009, 23, 2059-2076.	1.1	90
30	Hierarchical Fingertip Space: A Unified Framework for Grasp Planning and In-Hand Grasp Adaptation. <i>IEEE Transactions on Robotics</i> , 2016, 32, 960-972.	7.3	85
31	What is the teacherâ€™s role in robot programming by demonstration?. <i>Interaction Studies</i> , 2007, 8, 441-464.	0.4	80
32	Dexterous grasping under shape uncertainty. <i>Robotics and Autonomous Systems</i> , 2016, 75, 352-364.	3.0	80
33	Teaching physical collaborative tasks: object-lifting case study with a humanoid. , 2009, , .		79
34	Experiments in Learning by Imitation - Grounding and Use of Communication in Robotic Agents. <i>Adaptive Behavior</i> , 1999, 7, 415-438.	1.1	71
35	DRAMA, a Connectionist Architecture for Control and Learning in Autonomous Robots. <i>Adaptive Behavior</i> , 1999, 7, 35-63.	1.1	69
36	Learning of grasp adaptation through experience and tactile sensing. , 2014, , .		68

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37	A probabilistic Programming by Demonstration framework handling constraints in joint space and task space. , 2008, , .		67
38	A Dynamical System Approach for Softly Catching a Flying Object: Theory and Experiment. IEEE Transactions on Robotics, 2016, 32, 462-471.	7.3	67
39	A dynamical system approach to task-adaptation in physical human-robot interaction. Autonomous Robots, 2019, 43, 927-946.	3.2	67
40	A wearable gaze tracking system for children in unconstrained environments. Computer Vision and Image Understanding, 2011, 115, 476-486.	3.0	66
41	ONLINE LEARNING OF THE BODY SCHEMA. International Journal of Humanoid Robotics, 2008, 05, 161-181.	0.6	65
42	Apraxia: a review. Progress in Brain Research, 2007, 164, 61-83.	0.9	64
43	Comparison between macaques™ and humans™ kinematics of prehension: the role of morphological differences and control mechanisms. Behavioural Brain Research, 2002, 131, 169-184.	1.2	60
44	Online learning of varying stiffness through physical human-robot interaction. , 2012, , .		60
45	Learning object-level impedance control for robust grasping and dexterous manipulation. , 2014, , .		60
46	An Origami-Inspired Reconfigurable Suction Gripper for Picking Objects With Variable Shape and Size. IEEE Robotics and Automation Letters, 2018, 3, 2894-2901.	3.3	60
47	Active Teaching in Robot Programming by Demonstration. , 2007, , .		59
48	EMG-based decoding of grasp gestures in reaching-to-grasping motions. Robotics and Autonomous Systems, 2017, 91, 59-70.	3.0	58
49	Learning of gestures by imitation in a humanoid robot. , 2007, , 153-178.		56
50	Roombots-mechanical design of self-reconfiguring modular robots for adaptive furniture. , 2009, , .		55
51	Iterative learning of grasp adaptation through human corrections. Robotics and Autonomous Systems, 2012, 60, 55-71.	3.0	55
52	Hand Impedance Measurements During Interactive Manual Welding With a Robot. IEEE Transactions on Robotics, 2015, 31, 168-179.	7.3	53
53	A unified framework for coordinated multi-arm motion planning. International Journal of Robotics Research, 2018, 37, 1205-1232.	5.8	50
54	Coupled dynamical system based arm™hand grasping model for learning fast adaptation strategies. Robotics and Autonomous Systems, 2012, 60, 424-440.	3.0	49

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55	Avoidance of Convex and Concave Obstacles With Convergence Ensured Through Contraction. IEEE Robotics and Automation Letters, 2019, 4, 1462-1469.	3.3	49
56	Task Parameterization Using Continuous Constraints Extracted From Human Demonstrations. IEEE Transactions on Robotics, 2015, 31, 1458-1471.	7.3	48
57	Handling of multiple constraints and motion alternatives in a robot programming by demonstration framework. , 2009, , .		47
58	Grounding communication in autonomous robots: An experimental study. Robotics and Autonomous Systems, 1998, 24, 71-79.	3.0	46
59	BM: An iterative algorithm to learn stable non-linear dynamical systems with Gaussian mixture models. , 2010, , .		46
60	Donut as I do: Learning from failed demonstrations. , 2011, , .		46
61	Passive Interaction Control With Dynamical Systems. IEEE Robotics and Automation Letters, 2016, 1, 106-113.	3.3	46
62	Human-Robot Interaction. IEEE Robotics and Automation Magazine, 2010, 17, 85-89.	2.2	45
63	The Ethical Landscape of Robotics. IEEE Robotics and Automation Magazine, 2011, 18, 39-50.	2.2	45
64	Decoding the grasping intention from electromyography during reaching motions. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 57.	2.4	45
65	Imitation learning of globally stable non-linear point-to-point robot motions using nonlinear programming. , 2010, , .		44
66	Action Anticipation: Reading the Intentions of Humans and Robots. IEEE Robotics and Automation Letters, 2018, 3, 4132-4139.	3.3	44
67	Social orienting of children with autism to facial expressions and speech: a study with a wearable eye-tracker in naturalistic settings. Frontiers in Psychology, 2013, 4, 840.	1.1	40
68	Multi-contact haptic exploration and grasping with tactile sensors. Robotics and Autonomous Systems, 2016, 85, 48-61.	3.0	40
69	Reaching with multi-referential dynamical systems. Autonomous Robots, 2008, 25, 71-83.	3.2	39
70	Unravelling socio-motor biomarkers in schizophrenia. NPJ Schizophrenia, 2017, 3, 8.	2.0	32
71	Bimanual compliant tactile exploration for grasping unknown objects. , 2014, , .		30
72	Intent Prediction Based on Biomechanical Coordination of EMG and Vision-Filtered Gaze for End-Point Control of an Arm Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1471-1480.	2.7	30

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73	Learning motion dynamics to catch a moving object. , 2010, , .		29
74	Parallel and distributed neural models of the ideomotor principle: An investigation of imitative cortical pathways. Neural Networks, 2006, 19, 285-298.	3.3	28
75	Humanoid robots versus humans: How is emotional valence of facial expressions recognized by individuals with schizophrenia? An exploratory study. Schizophrenia Research, 2016, 176, 506-513.	1.1	28
76	Robot Learning from Failed Demonstrations. International Journal of Social Robotics, 2012, 4, 331-342.	3.1	27
77	Learning complex sequential tasks from demonstration: A pizza dough rolling case study. , 2016, , .		27
78	WearCam: A head mounted wireless camera for monitoring gaze attention and for the diagnosis of developmental disorders in young children. , 2007, , .		25
79	Recognizing the grasp intention from human demonstration. Robotics and Autonomous Systems, 2015, 74, 108-121.	3.0	25
80	Learning nonlinear multi-variate motion dynamics for real-time position and orientation control of robotic manipulators. , 2009, , .		24
81	Combining dynamical systems control and programming by demonstration for teaching discrete bimanual coordination tasks to a humanoid robot. , 2008, , .		23
82	Evaluation of a probabilistic approach to learn and reproduce gestures by imitation. , 2010, , .		23
83	On the Safety of Mobile Robots Serving in Public Spaces. ACM Transactions on Human-Robot Interaction, 2021, 10, 1-27.	3.2	23
84	Customizing skills for assistive robotic manipulators, an inverse reinforcement learning approach with error-related potentials. Communications Biology, 2021, 4, 1406.	2.0	23
85	Tactile guidance for policy refinement and reuse. , 2010, , .		22
86	A Dynamical-System-Based Approach for Controlling Robotic Manipulators During Noncontact/Contact Transitions. IEEE Robotics and Automation Letters, 2018, 3, 2738-2745.	3.3	22
87	Learning to Play Minigolf: A Dynamical System-Based Approach. Advanced Robotics, 2012, 26, 1967-1993.	1.1	21
88	Role of Gaze Cues in Interpersonal Motor Coordination: Towards Higher Affiliation in Human-Robot Interaction. PLoS ONE, 2016, 11, e0156874.	1.1	21
89	Teaching a Humanoid Robot to Recognize and Reproduce Social Cues. , 2006, , .		20
90	Bridging the Gap: One shot grasp synthesis approach. , 2012, , .		20

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91	Stretchable capacitive tactile skin on humanoid robot fingers — First experiments and results. , 2014, , .		20
92	Benchmark for Bimanual Robotic Manipulation of Semi-Deformable Objects. IEEE Robotics and Automation Letters, 2020, 5, 2443-2450.	3.3	20
93	On the generation of a variety of grasps. Robotics and Autonomous Systems, 2013, 61, 1335-1349.	3.0	19
94	A modular approach to learning manipulation strategies from human demonstration. Autonomous Robots, 2016, 40, 903-927.	3.2	19
95	Learning motions from demonstrations and rewards with time-invariant dynamical systems based policies. Autonomous Robots, 2018, 42, 45-64.	3.2	19
96	Safety Concerns Emerging from Robots Navigating in Crowded Pedestrian Areas. International Journal of Social Robotics, 2022, 14, 441-462.	3.1	19
97	From Human Physical Interaction To Online Motion Adaptation Using Parameterized Dynamical Systems. , 2018, , .		18
98	Influence of facial feedback during a cooperative human-robot task in schizophrenia. Scientific Reports, 2017, 7, 15023.	1.6	17
99	Three-dimensional frames of references transformations using recurrent populations of neurons. Neurocomputing, 2005, 64, 5-24.	3.5	16
100	Learning Dynamical System Modulation for Constrained Reaching Tasks. , 2006, , .		16
101	Constraints extraction from asymmetrical bimanual tasks and their use in coordinated behavior. Robotics and Autonomous Systems, 2018, 103, 222-235.	3.0	16
102	Inferring subjective preferences on robot trajectories using EEG signals. , 2019, , .		16
103	Real-Time Self-Collision Avoidance in Joint Space for Humanoid Robots. IEEE Robotics and Automation Letters, 2021, 6, 1240-1247.	3.3	16
104	Special Issue on Robot Learning by Observation, Demonstration, and Imitation. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 254-255.	5.5	15
105	Learning a real time grasping strategy. , 2013, , .		15
106	Learning robotic eye—arm—hand coordination from human demonstration: a coupled dynamical systems approach. Biological Cybernetics, 2014, 108, 223-248.	0.6	15
107	Coordinated multi-arm motion planning: Reaching for moving objects in the face of uncertainty. , 0, , .		15
108	Learning to control planar hitting motions in a minigolf-like task. , 2011, , .		14

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109	Play, Dreams and Imitation in Robota. , 2002, , 165-172.		12
110	Contact-initiated shared control strategies for four-arm supernumerary manipulation with foot interfaces. International Journal of Robotics Research, 2021, 40, 986-1014.	5.8	12
111	DRAMA, a connectionist architecture for online learning and control of autonomous robots: experiments on learning of a synthetic protoâ€language with a doll robot. Industrial Robot, 1999, 26, 59-66.	1.2	11
112	Using reinforcement learning to adapt an imitation task. , 2007, , .		10
113	Triggering social interactions: chimpanzees respond to imitation by a humanoid robot and request responses from it. Animal Cognition, 2014, 17, 589-595.	0.9	10
114	An inverse optimization approach to understand human acquisition of kinematic coordination in bimanual fine manipulation tasks. Biological Cybernetics, 2020, 114, 63-82.	0.6	10
115	Reactive Navigation in Crowds for Non-Holonomic Robots With Convex Bounding Shape. IEEE Robotics and Automation Letters, 2021, 6, 4728-4735.	3.3	10
116	From human action understanding to robot action execution: how the physical properties of handled objects modulate non-verbal cues. , 2020, , .		10
117	Biologically Inspired Multimodal Integration: Interferences in a Human-Robot Interaction Game. , 2006, , .		9
118	Assessing Interaction Dynamics in the Context of Robot Programming by Demonstration. International Journal of Social Robotics, 2013, 5, 477-490.	3.1	9
119	On the Influence of Emotional Feedback on Emotion Awareness and Gaze Behavior. , 2013, , .		9
120	On the mechanical, cognitive and sociable facets of human compliance and their robotic counterparts. Robotics and Autonomous Systems, 2017, 88, 157-164.	3.0	9
121	Learning task manifolds for constrained object manipulation. Autonomous Robots, 2018, 42, 159-174.	3.2	9
122	Learning Augmented Joint-Space Task-Oriented Dynamical Systems: A Linear Parameter Varying and Synergetic Control Approach. IEEE Robotics and Automation Letters, 2018, 3, 2718-2725.	3.3	9
123	Dual-Arm Control for Coordinated Fast Grabbing and Tossing of an Object: Proposing a New Approach. IEEE Robotics and Automation Magazine, 2022, 29, 127-138.	2.2	9
124	Special Issue on The Brain Mechanisms of Imitation Learning. Neural Networks, 2006, 19, 251-253.	3.3	8
125	On computing task-oriented grasps. Robotics and Autonomous Systems, 2015, 66, 145-158.	3.0	8
126	Hand pose selection in a bimanual fine-manipulation task. Journal of Neurophysiology, 2021, 126, 195-212.	0.9	7

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127	Learning From Demonstration and Interactive Control of Variable-Impedance to Cut Soft Tissues. IEEE/ASME Transactions on Mechatronics, 2022, 27, 2740-2751.	3.7	7
128	Iterative Estimation of Rigid-Body Transformations. Journal of Mathematical Imaging and Vision, 2012, 43, 1-9.	0.8	6
129	Learning cost function and trajectory for robotic writing motion. , 2014, , .		6
130	Cognitive mechanism in synchronized motion: An internal predictive model for manual tracking control (special session). , 2014, , .		6
131	Encoding bi-manual coordination patterns from human demonstrations. , 2014, , .		6
132	A Wearable Camera Detects Gaze Peculiarities during Social Interactions in Young Children with Pervasive Developmental Disorders. IEEE Transactions on Autonomous Mental Development, 2014, 6, 274-285.	2.3	6
133	Capture-point based balance and reactive omnidirectional walking controller. , 2017, , .		6
134	Social babbling: The emergence of symbolic gestures and words. Neural Networks, 2018, 106, 194-204.	3.3	6
135	Dynamic updating of distributed neural representations using forward models. Biological Cybernetics, 2006, 95, 567-588.	0.6	5
136	On the influence of symbols and myths in the responsibility ascription problem in roboethics - A roboticist’s perspective. , 2008, , .		5
137	Face classification using touch with a humanoid robot hand. , 2012, , .		5
138	Does this robot have a mind? Schizophrenia patients' mind perception toward humanoid robots. Schizophrenia Research, 2018, 197, 585-586.	1.1	5
139	An ensemble inverse optimal control approach for robotic task learning and adaptation. Autonomous Robots, 2019, 43, 875-896.	3.2	5
140	Learning dynamical systems with bifurcations. Robotics and Autonomous Systems, 2021, 136, 103700.	3.0	5
141	Hand-Object Interaction: From Human Demonstrations to Robot Manipulation. Frontiers in Robotics and AI, 2021, 8, 714023.	2.0	5
142	Learning to Hit: A statistical Dynamical System based approach. , 2021, , .		5
143	Locally active globally stable dynamical systems: Theory, learning, and experiments. International Journal of Robotics Research, 2022, 41, 312-347.	5.8	5
144	Unfreezing Social Navigation: Dynamical Systems based Compliance for Contact Control in Robot Navigation. , 2022, , .		5

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145	Discovering optimal imitation strategies. <i>Robotics and Autonomous Systems</i> , 2004, 47, 69-69.	3.0	4
146	Development of goal-directed imitation, object manipulation, and language in humans and robots. , 0, 424-468.		4
147	A tactile matrix for whole-body humanoid haptic sensing and safe interaction. , 2011, , .		4
148	Reaching and grasping kitchenware objects. , 2012, , .		4
149	Design of Hesitation Gestures for Nonverbal Human-Robot Negotiation of Conflicts. <i>ACM Transactions on Human-Robot Interaction</i> , 2021, 10, 1-25.	3.2	4
150	Learning Coupled Dynamical Systems from human demonstration for robotic eye-arm-hand coordination. , 2012, , .		3
151	Combined kinesthetic and simulated interface for teaching robot motion models. , 2015, , .		3
152	Learning externally modulated dynamical systems. , 2017, , .		3
153	Learning search behaviour from humans. , 2013, , .		2
154	Probabilistic depth image registration incorporating nonvisual information. , 2012, , .		1
155	Learning from failed demonstrations in unreliable systems. , 2013, , .		1
156	Efficient Configuration Exploration in Inverse Dynamics Acquisition of Robotic Manipulators. , 2021, , .		1
157	Metrics for Assessing Human Skill When Demonstrating a Bimanual Task to a Robot. , 2015, , .		0
158	Interferences in the Transformation of Reference Frames During a Posture Imitation Task. <i>Lecture Notes in Computer Science</i> , 2007, , 768-778.	1.0	0
159	Learning the Delaunay triangulation of landmarks from a distance ordering sensor. , 2011, , .		0