Aude G Billard

List of Publications by Citations

154	7,018	43	81
papers	citations	h-index	g-index
162	8,635	4.2	6.5
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
154	On learning, representing, and generalizing a task in a humanoid robot. *IEEE Transactions on Systems, Man, and Cybernetics*, **2007**, 37, 286-98		610
153	Robot Programming by Demonstration **2008**, 1371-1394		544
152	Learning Stable Nonlinear Dynamical Systems With Gaussian Mixture Models. *IEEE Transactions on Robotics*, **2011**, 27, 943-957	6.5	340
151	Computational approaches to motor learning by imitation. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2003**, 358, 537-47	5.8	338
150	Learning and Reproduction of Gestures by Imitation. *IEEE Robotics and Automation Magazine*, **2010**, 17, 44-54	3.4	282
149	A survey of Tactile Human Robot Interactions. *Robotics and Autonomous Systems*, **2010**, 58, 1159-1176	3.5	231
148	Incremental learning of gestures by imitation in a humanoid robot **2007**,		163
147	Dynamical System Modulation for Robot Learning via Kinesthetic Demonstrations. *IEEE Transactions on Robotics*, **2008**, 24, 1463-1467	6.5	154
146	Roombots: Reconfigurable Robots for Adaptive Furniture. *IEEE Computational Intelligence Magazine*, **2010**, 5, 20-32	5.6	152
145	Building Robota, a mini-humanoid robot for the rehabilitation of children with autism. *Assistive Technology*, **2007**, 19, 37-49	1.5	146
144	Discriminative and adaptive imitation in uni-manual and bi-manual tasks. *Robotics and Autonomous Systems*, **2006**, 54, 370-384	3.5	141
143	Trends and challenges in robot manipulation. *Science*, **2019**, 364,	33.3	136
142	A dynamical system approach to realtime obstacle avoidance. *Autonomous Robots*, **2012**, 32, 433-454	3	125
141	Discovering optimal imitation strategies. *Robotics and Autonomous Systems*, **2004**, 47, 69-77	3.5	116
140	Collaboration Through the Exploitation of Local Interactions in Autonomous Collective Robotics: The Stick Pulling Experiment. *Autonomous Robots*, **2001**, 11, 149-171	3	104
139	Catching Objects in Flight. *IEEE Transactions on Robotics*, **2014**, 30, 1049-1065	6.5	101
138	Motion learning and adaptive impedance for robot control during physical interaction with humans **2011**,		97

119	Estimating the non-linear dynamics of free-flying objects. *Robotics and Autonomous Systems*, **2012**, 60, 1108-1122	3.5	51
118	Apraxia: a review. *Progress in Brain Research*, **2007**, 164, 61-83	2.9	51
117	Shared human-robot proportional control of a dexterous myoelectric prosthesis. *Nature Machine Intelligence*, **2019**, 1, 400-411	22.5	49
116	A probabilistic Programming by Demonstration framework handling constraints in joint space and task space **2008**,		49
115	Iterative learning of grasp adaptation through human corrections. *Robotics and Autonomous Systems*, **2012**, 60, 55-71	3.5	46
114	Learning object-level impedance control for robust grasping and dexterous manipulation **2014**,		46
113	Learning of grasp adaptation through experience and tactile sensing **2014**,		46
112	Experiments in Learning by Imitation - Grounding and Use of Communication in Robotic Agents. *Adaptive Behavior*, **1999**, 7, 415-438	1.1	44
111	EMG-based decoding of grasp gestures in reaching-to-grasping motions. *Robotics and Autonomous Systems*, **2017**, 91, 59-70	3.5	42
110	Active Teaching in Robot Programming by Demonstration **2007**,		41
109	. *IEEE Transactions on Robotics*, **2015**, 31, 168-179	6.5	40
108	A Dynamical System Approach for Softly Catching a Flying Object: Theory and Experiment. *IEEE Transactions on Robotics*, **2016**, 32, 462-471	6.5	40
107	A dynamical system approach to task-adaptation in physical human-robot interaction. *Autonomous Robots*, **2019**, 43, 927-946	3	39
106	Roombots-mechanical design of self-reconfiguring modular robots for adaptive furniture **2009**,		39
105	Online learning of varying stiffness through physical human-robot interaction **2012**,		39
104	. *IEEE Transactions on Robotics*, **2015**, 31, 1458-1471	6.5	39
103	Coupled dynamical system based arm-hand grasping model for learning fast adaptation strategies. *Robotics and Autonomous Systems*, **2012**, 60, 424-440	3.5	38
102	The Ethical Landscape of Robotics. *IEEE Robotics and Automation Magazine*, **2011**, 18, 39-50	3.4	36

101	Grounding communication in autonomous robots: An experimental study. *Robotics and Autonomous Systems*, **1998**, 24, 71-79	3.5	36
100	Handling of multiple constraints and motion alternatives in a robot programming by demonstration framework **2009**,		35
99	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	3.4	34
98	Imitation learning of globally stable non-linear point-to-point robot motions using nonlinear programming **2010**,		34
97	Learning of gestures by imitation in a humanoid robot153-178		33
96	Human—Robot Interaction. *IEEE Robotics and Automation Magazine*, **2010**, 17, 85-89	3.4	32
95	BM: An iterative algorithm to learn stable non-linear dynamical systems with Gaussian mixture models **2010**,		31
94	Reaching with multi-referential dynamical systems. *Autonomous Robots*, **2008**, 25, 71-83	3	31
93	Multi-contact haptic exploration and grasping with tactile sensors. *Robotics and Autonomous Systems*, **2016**, 85, 48-61	3.5	30
92	Passive Interaction Control With Dynamical Systems. *IEEE Robotics and Automation Letters*, **2016**, 1, 106-113	4.2	28
91	Donut as I do: Learning from failed demonstrations **2011**,		28
90	Avoidance of Convex and Concave Obstacles With Convergence Ensured Through Contraction. *IEEE Robotics and Automation Letters*, **2019**, 4, 1462-1469	4.2	27
89	. *IEEE Robotics and Automation Letters*, **2018**, 3, 2894-2901	4.2	27
88	Decoding the grasping intention from electromyography during reaching motions. *Journal of NeuroEngineering and Rehabilitation*, **2018**, 15, 57	5.3	26
87	Bimanual compliant tactile exploration for grasping unknown objects **2014**,		26
86	Parallel and distributed neural models of the ideomotor principle: an investigation of imitative cortical pathways. *Neural Networks*, **2006**, 19, 285-98	9.1	25
85	Action Anticipation: Reading the Intentions of Humans and Robots. *IEEE Robotics and Automation Letters*, **2018**, 3, 4132-4139	4.2	23
84	Unravelling socio-motor biomarkers in schizophrenia. *NPJ Schizophrenia*, **2017**, 3, 8	5.5	22

83	Recognizing the grasp intention from human demonstration. *Robotics and Autonomous Systems*, **2015**, 74, 108-121	3.5	22
82	Learning motion dynamics to catch a moving object **2010**,		22
81	A unified framework for coordinated multi-arm motion planning. *International Journal of Robotics Research*, **2018**, 37, 1205-1232	5.7	21
80	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	3.6	19
79	**2009**,		19
78	WearCam: A head mounted wireless camera for monitoring gaze attention and for the diagnosis of developmental disorders in young children **2007**,		19
77	Learning complex sequential tasks from demonstration: A pizza dough rolling case study **2016**,		18
76	Tactile guidance for policy refinement and reuse **2010**,		17
75	Bridging the Gap: One shot grasp synthesis approach **2012**,		17
74	A modular approach to learning manipulation strategies from human demonstration. *Autonomous Robots*, **2016**, 40, 903-927	3	16
73	On the generation of a variety of grasps. *Robotics and Autonomous Systems*, **2013**, 61, 1335-1349	3.5	16
72	Evaluation of a probabilistic approach to learn and reproduce gestures by imitation **2010**,		16
71	Teaching a Humanoid Robot to Recognize and Reproduce Social Cues **2006**,		16
70	Stretchable capacitive tactile skin on humanoid robot fingers First experiments and results **2014**,		15
69	Learning to Play Minigolf: A Dynamical System-Based Approach. *Advanced Robotics*, **2012**, 26, 1967-1993	1.7	14
68	Combining dynamical systems control and programmingby demonstration for teaching discrete bimanual coordination tasks to a humanoid robot **2008**,		14
67	The ROBOSKIN Project: Challenges and Results. *CISM International Centre for Mechanical Sciences, Courses and Lectures*, **2013**, 351-358	0.6	14
66	Robot Learning from Failed Demonstrations. *International Journal of Social Robotics*, **2012**, 4, 331-342	4	13

65	Learning to control planar hitting motions in a minigolf-like task **2011**,		13
64	Role of Gaze Cues in Interpersonal Motor Coordination: Towards Higher Affiliation in Human-Robot Interaction. *PLoS ONE*, **2016**, 11, e0156874	3.7	13
63	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	4.8	12
62	Benchmark for Bimanual Robotic Manipulation of Semi-Deformable Objects. *IEEE Robotics and Automation Letters*, **2020**, 5, 2443-2450	4.2	12
61	Learning robotic eye-arm-hand coordination from human demonstration: a coupled dynamical systems approach. *Biological Cybernetics*, **2014**, 108, 223-48	2.8	12
60	From Human Physical Interaction To Online Motion Adaptation Using Parameterized Dynamical Systems **2018**,		12
59	A Dynamical-System-Based Approach for Controlling Robotic Manipulators During Noncontact/Contact Transitions. *IEEE Robotics and Automation Letters*, **2018**, 3, 2738-2745	4.2	12
58	Influence of facial feedback during a cooperative human-robot task in schizophrenia. *Scientific Reports*, **2017**, 7, 15023	4.9	11
57	Learning Dynamical System Modulation for Constrained Reaching Tasks **2006**,		11
56	Three-dimensional frames of references transformations using recurrent populations of neurons. *Neurocomputing*, **2005**, 64, 5-24	5.4	11
55	Constraints extraction from asymmetrical bimanual tasks and their use in coordinated behavior. *Robotics and Autonomous Systems*, **2018**, 103, 222-235	3.5	10
54	Triggering social interactions: chimpanzees respond to imitation by a humanoid robot and request responses from it. *Animal Cognition*, **2014**, 17, 589-95	3.1	10
53	Play, Dreams and Imitation in Robota **2002**, 165-172		10
52	DRAMA, a connectionist architecture for online learning and control of autonomous robots: experiments on learning of a synthetic proto-language with a doll robot. *Industrial Robot*, **1999**, 26, 59-66	1.4	10
51	On the Influence of Emotional Feedback on Emotion Awareness and Gaze Behavior **2013**,		9
50	Special Issue on Robot Learning by Observation, Demonstration, and Imitation. *IEEE Transactions on Systems, Man, and Cybernetics*, **2007**, 37, 254-255		9
49	Assessing Interaction Dynamics in the Context of Robot Programming by Demonstration. *International Journal of Social Robotics*, **2013**, 5, 477-490	4	8
48	Learning a real time grasping strategy **2013**,		8

47	Biologically Inspired Multimodal Integration: Interferences in a Human-Robot Interaction Game **2006**,		8
46	Using reinforcement learning to adapt an imitation task **2007**,		8
45	Inferring subjective preferences on robot trajectories using EEG signals **2019**,		7
44	Learning motions from demonstrations and rewards with time-invariant dynamical systems based policies. *Autonomous Robots*, **2018**, 42, 45-64	3	7
43	On the mechanical, cognitive and sociable facets of human compliance and their robotic counterparts. *Robotics and Autonomous Systems*, **2017**, 88, 157-164	3.5	7
42	Coordinated multi-arm motion planning: Reaching for moving objects in the face of uncertainty		7
41	Special issue on the brain mechanisms of imitation learning. *Neural Networks*, **2006**, 19, 251-3	9.1	6
40	On the Safety of Mobile Robots Serving in Public Spaces. *ACM Transactions on Human-Robot Interaction*, **2021**, 10, 1-27	3.2	6
39	Capture-point based balance and reactive omnidirectional walking controller **2017**,		5
38	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		5
37	On computing task-oriented grasps. *Robotics and Autonomous Systems*, **2015**, 66, 145-158	3.5	5
36	Cognitive mechanism in synchronized motion: An internal predictive model for manual tracking control (special session) **2014**,		5
35	Dynamic updating of distributed neural representations using forward models. *Biological Cybernetics*, **2006**, 95, 567-88	2.8	5
34	Face classification using touch with a humanoid robot hand **2012**,		4
33	Reaching and grasping kitchenware objects **2012**,		4
32	Reactive Navigation in Crowds for Non-Holonomic Robots With Convex Bounding Shape. *IEEE Robotics and Automation Letters*, **2021**, 6, 4728-4735	4.2	4
31	Does this robot have a mind? Schizophrenia patients' mind perception toward humanoid robots. *Schizophrenia Research*, **2018**, 197, 585-586	3.6	4
30	An inverse optimization approach to understand human acquisition of kinematic coordination in bimanual fine manipulation tasks. *Biological Cybernetics*, **2020**, 114, 63-82	2.8	3

29	Learning task manifolds for constrained object manipulation. *Autonomous Robots*, **2018**, 42, 159-174	3	3
28	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	4.2	3
27	An ensemble inverse optimal control approach for robotic task learning and adaptation. *Autonomous Robots*, **2019**, 43, 875-896	3	3
26	Learning externally modulated dynamical systems **2017**,		3
25	Learning cost function and trajectory for robotic writing motion **2014**,		3
24	Encoding bi-manual coordination patterns from human demonstrations **2014**,		3
23	Learning Coupled Dynamical Systems from human demonstration for robotic eye-arm-hand coordination **2012**,		3
22	Real-Time Self-Collision Avoidance in Joint Space for Humanoid Robots. *IEEE Robotics and Automation Letters*, **2021**, 6, 1240-1247	4.2	3
21	Contact-initiated shared control strategies for four-arm supernumerary manipulation with foot interfaces. *International Journal of Robotics Research*, **2021**, 40, 986-1014	5.7	3
20	Social babbling: The emergence of symbolic gestures and words. *Neural Networks*, **2018**, 106, 194-204	9.1	2
19	Combined kinesthetic and simulated interface for teaching robot motion models **2015**,		2
18	Iterative Estimation of Rigid-Body Transformations. *Journal of Mathematical Imaging and Vision*, **2012**, 43, 1-9	1.6	2
17	A tactile matrix for whole-body humanoid haptic sensing and safe interaction **2011**,		2
16	On the influence of symbols and myths in the responsibility ascription problem in roboethics - A roboticist's perspective **2008**,		2
15	Development of goal-directed imitation, object manipulation, and language in humans and robots424-468		2
14	From human action understanding to robot action execution: how the physical properties of handled objects modulate non-verbal cues **2020**,		2
13	Safety Concerns Emerging from Robots Navigating in Crowded Pedestrian Areas. *International Journal of Social Robotics*,1	4	2
12	Learning search behaviour from humans **2013**,		1

11	Probabilistic depth image registration incorporating nonvisual information **2012**,		1
10	Discovering optimal imitation strategies. *Robotics and Autonomous Systems*, **2004**, 47, 69-69	3.5	1
9	Locally active globally stable dynamical systems: Theory, learning, and experiments. *International Journal of Robotics Research*,027836492110309	5.7	1
8	Hand-Object Interaction: From Human Demonstrations to Robot Manipulation. *Frontiers in Robotics and AI*, **2021**, 8, 714023	2.8	1
7	Customizing skills for assistive robotic manipulators, an inverse reinforcement learning approach with error-related potentials.. *Communications Biology*, **2021**, 4, 1406	6.7	1
6	Learning From Demonstration and Interactive Control of Variable-Impedance to Cut Soft Tissues. *IEEE/ASME Transactions on Mechatronics*, **2021**, 1-12	5.5	0
5	Hand pose selection in a bimanual fine-manipulation task. *Journal of Neurophysiology*, **2021**, 126, 195-213	3.2	0
4	Learning dynamical systems with bifurcations. *Robotics and Autonomous Systems*, **2021**, 136, 103700	3.5	0
3	Design of Hesitation Gestures for Nonverbal Human-Robot Negotiation of Conflicts. *ACM Transactions on Human-Robot Interaction*, **2021**, 10, 1-25	3.2	0
2	Dual-Arm Control for Coordinated Fast Grabbing and Tossing of an Object: Proposing a New Approach. *IEEE Robotics and Automation Magazine*, **2022**, 2-13	3.4	0
1	Interferences in the Transformation of Reference Frames During a Posture Imitation Task. *Lecture Notes in Computer Science*, **2007**, 768-778	0.9	