Aude G Billard

List of Publications by Year
in descending order

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159 papers	10,160 citations	53794 45 h-index	49909 87 g-index
162 all docs	162 docs citations	162 times ranked	5873 citing authors

#	Article	IF	Citations
1	Safety Concerns Emerging from Robots Navigating in Crowded Pedestrian Areas. International Journal of Social Robotics, 2022, 14, 441-462.	4.6	19
2	Learning From Demonstration and Interactive Control of Variable-Impedance to Cut Soft Tissues. IEEE/ASME Transactions on Mechatronics, 2022, 27, 2740-2751.	5.8	7
3	Locally active globally stable dynamical systems: Theory, learning, and experiments. International Journal of Robotics Research, 2022, 41, 312-347.	8.5	5
4	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.	2.0	9
5	Unfreezing Social Navigation: Dynamical Systems based Compliance for Contact Control in Robot Navigation. , 2022, , .		5
6	Learning dynamical systems with bifurcations. Robotics and Autonomous Systems, 2021, 136, 103700.	5.1	5
7	Real-Time Self-Collision Avoidance in Joint Space for Humanoid Robots. IEEE Robotics and Automation Letters, 2021, 6, 1240-1247.	5.1	16
8	Contact-initiated shared control strategies for four-arm supernumerary manipulation with foot interfaces. International Journal of Robotics Research, 2021, 40, 986-1014.	8.5	12
9	Hand pose selection in a bimanual fine-manipulation task. Journal of Neurophysiology, 2021, 126, 195-212.	1.8	7
10	Reactive Navigation in Crowds for Non-Holonomic Robots With Convex Bounding Shape. IEEE Robotics and Automation Letters, 2021, 6, 4728-4735.	5.1	10
11	On the Safety of Mobile Robots Serving in Public Spaces. ACM Transactions on Human-Robot Interaction, 2021, 10, 1-27.	4.1	23
12	Design of Hesitation Gestures for Nonverbal Human-Robot Negotiation of Conflicts. ACM Transactions on Human-Robot Interaction, 2021, 10, 1-25.	4.1	4
13	Hand-Object Interaction: From Human Demonstrations to Robot Manipulation. Frontiers in Robotics and AI, 2021, 8, 714023.	3.2	5
14	Efficient Configuration Exploration in Inverse Dynamics Acquisition of Robotic Manipulators. , 2021, , .		1
15	Learning to Hit: A statistical Dynamical System based approach. , 2021, , .		5
16	Customizing skills for assistive robotic manipulators, an inverse reinforcement learning approach with error-related potentials. Communications Biology, 2021, 4, 1406.	4.4	23
17	Recent Advances in Robot Learning from Demonstration. Annual Review of Control, Robotics, and Autonomous Systems, 2020, 3, 297-330.	11.8	311
18	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.	4.9	30

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19	An inverse optimization approach to understand human acquisition of kinematic coordination in bimanual fine manipulation tasks. Biological Cybernetics, 2020, 114, 63-82.	1.3	10
20	Benchmark for Bimanual Robotic Manipulation of Semi-Deformable Objects. IEEE Robotics and Automation Letters, 2020, 5, 2443-2450.	5.1	20
21	From human action understanding to robot action execution: how the physical properties of handled objects modulate non-verbal cues. , 2020, , .		10
22	An ensemble inverse optimal control approach for robotic task learning and adaptation. Autonomous Robots, 2019, 43, 875-896.	4.8	5
23	A dynamical system approach to task-adaptation in physical humanâ€“robot interaction. Autonomous Robots, 2019, 43, 927-946.	4.8	67
24	Inferring subjective preferences on robot trajectories using EEG signals. , 2019, , .		16
25	Shared humanâ€“robot proportional control of a dexterous myoelectric prosthesis. Nature Machine Intelligence, 2019, 1, 400-411.	16.0	91
26	Avoidance of Convex and Concave Obstacles With Convergence Ensured Through Contraction. IEEE Robotics and Automation Letters, 2019, 4, 1462-1469.	5.1	49
27	Trends and challenges in robot manipulation. Science, 2019, 364, .	12.6	380
28	Constraints extraction from asymmetrical bimanual tasks and their use in coordinated behavior. Robotics and Autonomous Systems, 2018, 103, 222-235.	5.1	16
29	A unified framework for coordinated multi-arm motion planning. International Journal of Robotics Research, 2018, 37, 1205-1232.	8.5	50
30	Learning motions from demonstrations and rewards with time-invariant dynamical systems based policies. Autonomous Robots, 2018, 42, 45-64.	4.8	19
31	Learning task manifolds for constrained object manipulation. Autonomous Robots, 2018, 42, 159-174.	4.8	9
32	Does this robot have a mind? Schizophrenia patients' mind perception toward humanoid robots. Schizophrenia Research, 2018, 197, 585-586.	2.0	5
33	From Human Physical Interaction To Online Motion Adaptation Using Parameterized Dynamical Systems. , 2018, , .		18
34	A Dynamical-System-Based Approach for Controlling Robotic Manipulators During Noncontact/Contact Transitions. IEEE Robotics and Automation Letters, 2018, 3, 2738-2745.	5.1	22
35	Action Anticipation: Reading the Intentions of Humans and Robots. IEEE Robotics and Automation Letters, 2018, 3, 4132-4139.	5.1	44
36	Social babbling: The emergence of symbolic gestures and words. Neural Networks, 2018, 106, 194-204.	5.9	6

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37	Decoding the grasping intention from electromyography during reaching motions. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 57.	4.6	45
38	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.	5.1	9
39	An Origami-Inspired Reconfigurable Suction Gripper for Picking Objects With Variable Shape and Size. IEEE Robotics and Automation Letters, 2018, 3, 2894-2901.	5.1	60
40	EMG-based decoding of grasp gestures in reaching-to-grasping motions. Robotics and Autonomous Systems, 2017, 91, 59-70.	5.1	58
41	Unravelling socio-motor biomarkers in schizophrenia. NPJ Schizophrenia, 2017, 3, 8.	3.6	32
42	Influence of facial feedback during a cooperative human-robot task in schizophrenia. Scientific Reports, 2017, 7, 15023.	3.3	17
43	On the mechanical, cognitive and sociable facets of human compliance and their robotic counterparts. Robotics and Autonomous Systems, 2017, 88, 157-164.	5.1	9
44	Learning externally modulated dynamical systems. , 2017, , .		3
45	Capture-point based balance and reactive omnidirectional walking controller. , 2017, , .		6
46	Role of Gaze Cues in Interpersonal Motor Coordination: Towards Higher Affiliation in Human-Robot Interaction. PLoS ONE, 2016, 11, e0156874.	2.5	21
47	A Dynamical System Approach for Softly Catching a Flying Object: Theory and Experiment. IEEE Transactions on Robotics, 2016, 32, 462-471.	10.3	67
48	Learning complex sequential tasks from demonstration: A pizza dough rolling case study. , 2016, , .		27
49	Multi-contact haptic exploration and grasping with tactile sensors. Robotics and Autonomous Systems, 2016, 85, 48-61.	5.1	40
50	Stability Considerations for Variable Impedance Control. IEEE Transactions on Robotics, 2016, 32, 1298-1305.	10.3	160
51	Learning from Humans. Springer Handbooks, 2016, , 1995-2014.	0.6	127
52	Hierarchical Fingertip Space: A Unified Framework for Grasp Planning and In-Hand Grasp Adaptation. IEEE Transactions on Robotics, 2016, 32, 960-972.	10.3	85
53	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.	2.0	28
54	A modular approach to learning manipulation strategies from human demonstration. Autonomous Robots, 2016, 40, 903-927.	4.8	19

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55	Passive Interaction Control With Dynamical Systems. IEEE Robotics and Automation Letters, 2016, 1, 106-113.	5.1	46
56	Dexterous grasping under shape uncertainty. Robotics and Autonomous Systems, 2016, 75, 352-364.	5.1	80
57	Combined kinesthetic and simulated interface for teaching robot motion models. , 2015, , .		3
58	Hand Impedance Measurements During Interactive Manual Welding With a Robot. IEEE Transactions on Robotics, 2015, 31, 168-179.	10.3	53
59	On computing task-oriented grasps. Robotics and Autonomous Systems, 2015, 66, 145-158.	5.1	8
60	Metrics for Assessing Human Skill When Demonstrating a Bimanual Task to a Robot. , 2015, , .		0
61	Recognizing the grasp intention from human demonstration. Robotics and Autonomous Systems, 2015, 74, 108-121.	5.1	25
62	Task Parameterization Using Continuous Constraints Extracted From Human Demonstrations. IEEE Transactions on Robotics, 2015, 31, 1458-1471.	10.3	48
63	Stretchable capacitive tactile skin on humanoid robot fingers — First experiments and results. , 2014, , .		20
64	Learning cost function and trajectory for robotic writing motion. , 2014, , .		6
65	Cognitive mechanism in synchronized motion: An internal predictive model for manual tracking control (special session). , 2014, , .		6
66	Encoding bi-manual coordination patterns from human demonstrations. , 2014, , .		6
67	Learning object-level impedance control for robust grasping and dexterous manipulation. , 2014, , .		60
68	Learning of grasp adaptation through experience and tactile sensing. , 2014, , .		68
69	Bimanual compliant tactile exploration for grasping unknown objects. , 2014, , .		30
70	Learning control Lyapunov function to ensure stability of dynamical system-based robot reaching motions. Robotics and Autonomous Systems, 2014, 62, 752-765.	5.1	133
71	Learning robotic eyeâ€“armâ€“hand coordination from human demonstration: a coupled dynamical systems approach. Biological Cybernetics, 2014, 108, 223-248.	1.3	15
72	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.	1.6	6

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73	Triggering social interactions: chimpanzees respond to imitation by a humanoid robot and request responses from it. Animal Cognition, 2014, 17, 589-595.	1.8	10
74	Catching Objects in Flight. IEEE Transactions on Robotics, 2014, 30, 1049-1065.	10.3	166
75	Assessing Interaction Dynamics in the Context of Robot Programming by Demonstration. International Journal of Social Robotics, 2013, 5, 477-490.	4.6	9
76	On the generation of a variety of grasps. Robotics and Autonomous Systems, 2013, 61, 1335-1349.	5.1	19
77	Learning search behaviour from humans. , 2013, , .		2
78	Safety issues in human-robot interactions. , 2013, , .		144
79	Learning from failed demonstrations in unreliable systems. , 2013, , .		1
80	Learning a real time grasping strategy. , 2013, , .		15
81	On the Influence of Emotional Feedback on Emotion Awareness and Gaze Behavior. , 2013, , .		9
82	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.	2.1	40
83	Probabilistic depth image registration incorporating nonvisual information. , 2012, , .		1
84	Online learning of varying stiffness through physical human-robot interaction. , 2012, , .		60
85	Bridging the Gap: One shot grasp synthesis approach. , 2012, , .		20
86	Reaching and grasping kitchenware objects. , 2012, , .		4
87	Learning Coupled Dynamical Systems from human demonstration for robotic eye-arm-hand coordination. , 2012, , .		3
88	Face classification using touch with a humanoid robot hand. , 2012, , .		5
89	Learning to Play Minigolf: A Dynamical System-Based Approach. Advanced Robotics, 2012, 26, 1967-1993.	1.8	21
90	Estimating the non-linear dynamics of free-flying objects. Robotics and Autonomous Systems, 2012, 60, 1108-1122.	5.1	98

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91	Robot Learning from Failed Demonstrations. International Journal of Social Robotics, 2012, 4, 331-342.	4.6	27
92	Iterative Estimation of Rigid-Body Transformations. Journal of Mathematical Imaging and Vision, 2012, 43, 1-9.	1.3	6
93	A dynamical system approach to realtime obstacle avoidance. Autonomous Robots, 2012, 32, 433-454.	4.8	186
94	Coupled dynamical system based armâ€“hand grasping model for learning fast adaptation strategies. Robotics and Autonomous Systems, 2012, 60, 424-440.	5.1	49
95	Iterative learning of grasp adaptation through human corrections. Robotics and Autonomous Systems, 2012, 60, 55-71.	5.1	55
96	Investigating Gaze of Children with ASD in Naturalistic Settings. PLoS ONE, 2012, 7, e44144.	2.5	93
97	Learning to control planar hitting motions in a minigolf-like task. , 2011, , .		14
98	A tactile matrix for whole-body humanoid haptic sensing and safe interaction. , 2011, , .		4
99	Learning Stable Nonlinear Dynamical Systems With Gaussian Mixture Models. IEEE Transactions on Robotics, 2011, 27, 943-957.	10.3	500
100	The Ethical Landscape of Robotics. IEEE Robotics and Automation Magazine, 2011, 18, 39-50.	2.0	45
101	A wearable gaze tracking system for children in unconstrained environments. Computer Vision and Image Understanding, 2011, 115, 476-486.	4.7	66
102	Motion learning and adaptive impedance for robot control during physical interaction with humans. , 2011, , .		129
103	Donut as I do: Learning from failed demonstrations. , 2011, , .		46
104	Learning the Delaunay triangulation of landmarks from a distance ordering sensor. , 2011, , .		0
105	A survey of Tactile Humanâ€“Robot Interactions. Robotics and Autonomous Systems, 2010, 58, 1159-1176.	5.1	284
106	Roombots: Reconfigurable Robots for Adaptive Furniture. IEEE Computational Intelligence Magazine, 2010, 5, 20-32.	3.2	185
107	Learning and Reproduction of Gestures by Imitation. IEEE Robotics and Automation Magazine, 2010, 17, 44-54.	2.0	359
108	Humanâ€“Robot Interaction. IEEE Robotics and Automation Magazine, 2010, 17, 85-89.	2.0	45

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109	Tactile guidance for policy refinement and reuse. , 2010, , .		22
110	Learning motion dynamics to catch a moving object. , 2010, , .		29
111	Evaluation of a probabilistic approach to learn and reproduce gestures by imitation. , 2010, , .		23
112	BM: An iterative algorithm to learn stable non-linear dynamical systems with Gaussian mixture models. , 2010, , .		46
113	Imitation learning of globally stable non-linear point-to-point robot motions using nonlinear programming. , 2010, , .		44
114	Roombots-mechanical design of self-reconfiguring modular robots for adaptive furniture. , 2009, , .		55
115	Statistical Learning by Imitation of Competing Constraints in Joint Space and Task Space. Advanced Robotics, 2009, 23, 2059-2076.	1.8	90
116	Learning nonlinear multi-variate motion dynamics for real-time position and orientation control of robotic manipulators. , 2009, , .		24
117	Handling of multiple constraints and motion alternatives in a robot programming by demonstration framework. , 2009, , .		47
118	Teaching physical collaborative tasks: object-lifting case study with a humanoid. , 2009, , .		79
119	Reaching with multi-referential dynamical systems. Autonomous Robots, 2008, 25, 71-83.	4.8	39
120	Robot Programming by Demonstration. , 2008, , 1371-1394.		691
121	A probabilistic Programming by Demonstration framework handling constraints in joint space and task space. , 2008, , .		67
122	On the influence of symbols and myths in the responsibility ascription problem in roboethics - A roboticist’s perspective. , 2008, , .		5
123	Dynamical System Modulation for Robot Learning via Kinesthetic Demonstrations. IEEE Transactions on Robotics, 2008, 24, 1463-1467.	10.3	197
124	ONLINE LEARNING OF THE BODY SCHEMA. International Journal of Humanoid Robotics, 2008, 05, 161-181.	1.1	65
125	Combining dynamical systems control and programmingby demonstration for teaching discrete bimanual coordination tasks to a humanoid robot. , 2008, , .		23
126	Using reinforcement learning to adapt an imitation task. , 2007, , .		10

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127	Reinforcement learning for imitating constrained reaching movements. Advanced Robotics, 2007, 21, 1521-1544.	1.8	99
128	Incremental learning of gestures by imitation in a humanoid robot. , 2007, , .		208
129	Building Robota, a Mini-Humanoid Robot for the Rehabilitation of Children With Autism. Assistive Technology, 2007, 19, 37-49.	2.0	177
130	Active Teaching in Robot Programming by Demonstration. , 2007, , .		59
131	Apraxia: a review. Progress in Brain Research, 2007, 164, 61-83.	1.4	64
132	Learning of gestures by imitation in a humanoid robot. , 2007, , 153-178.		56
133	What is the teacherâ€™s role in robot programming by demonstration?. Interaction Studies, 2007, 8, 441-464.	0.6	80
134	Special Issue on Robot Learning by Observation, Demonstration, and Imitation. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 254-255.	5.0	15
135	On Learning, Representing, and Generalizing a Task in a Humanoid Robot. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 286-298.	5.0	817
136	WearCam: A head mounted wireless camera for monitoring gaze attention and for the diagnosis of developmental disorders in young children. , 2007, , .		25
137	Interferences in the Transformation of Reference Frames During a Posture Imitation Task. Lecture Notes in Computer Science, 2007, , 768-778.	1.3	0
138	Learning Dynamical System Modulation for Constrained Reaching Tasks. , 2006, , .		16
139	Teaching a Humanoid Robot to Recognize and Reproduce Social Cues. , 2006, , .		20
140	Special Issue on The Brain Mechanisms of Imitation Learning. Neural Networks, 2006, 19, 251-253.	5.9	8
141	Parallel and distributed neural models of the ideomotor principle: An investigation of imitative cortical pathways. Neural Networks, 2006, 19, 285-298.	5.9	28
142	Discriminative and adaptive imitation in uni-manual and bi-manual tasks. Robotics and Autonomous Systems, 2006, 54, 370-384.	5.1	149
143	Dynamic updating of distributed neural representations using forward models. Biological Cybernetics, 2006, 95, 567-588.	1.3	5
144	Biologically Inspired Multimodal Integration: Interferences in a Human-Robot Interaction Game. , 2006, , .		9

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145	Three-dimensional frames of references transformations using recurrent populations of neurons. Neurocomputing, 2005, 64, 5-24.	5.9	16
146	Discovering optimal imitation strategies. Robotics and Autonomous Systems, 2004, 47, 69-77.	5.1	140
147	Discovering optimal imitation strategies. Robotics and Autonomous Systems, 2004, 47, 69-69.	5.1	4
148	Robota: Clever toy and educational tool. Robotics and Autonomous Systems, 2003, 42, 259-269.	5.1	101
149	Computational approaches to motor learning by imitation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2003, 358, 537-547.	4.0	431
150	Play, Dreams and Imitation in Robota. , 2002, , 165-172.		12
151	Comparison between macaquesâ€™ and humansâ€™ kinematics of prehension: the role of morphological differences and control mechanisms. Behavioural Brain Research, 2002, 131, 169-184.	2.2	60
152	Title is missing!. Autonomous Robots, 2001, 11, 149-171.	4.8	143
153	Learning human arm movements by imitation:. Robotics and Autonomous Systems, 2001, 37, 145-160.	5.1	136
154	Experiments in Learning by Imitation - Grounding and Use of Communication in Robotic Agents. Adaptive Behavior, 1999, 7, 415-438.	1.9	71
155	DRAMA, a Connectionist Architecture for Control and Learning in Autonomous Robots. Adaptive Behavior, 1999, 7, 35-63.	1.9	69
156	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.	2.1	11
157	Grounding communication in autonomous robots: An experimental study. Robotics and Autonomous Systems, 1998, 24, 71-79.	5.1	46
158	Development of goal-directed imitation, object manipulation, and language in humans and robots. , 0, , 424-468.		4
159	Coordinated multi-arm motion planning: Reaching for moving objects in the face of uncertainty. , 0, , .		15