Gianluca Baldassarre

List of Publications by Year
in descending order

130 papers	4,335 citations	147801 31 h-index	138484 58 g-index
137 all docs	137 docs citations	137 times ranked	3811 citing authors

#	Article	IF	Citations
1	Learning Abstract Representations Through Lossy Compression of Multimodal Signals. IEEE Transactions on Cognitive and Developmental Systems, 2023, 15, 348-360.	3.8	4
2	C-GRAIL: Autonomous Reinforcement Learning of Multiple and Context-Dependent Goals. IEEE Transactions on Cognitive and Developmental Systems, 2023, 15, 210-222.	3.8	2
3	Intrinsic Motivations and Planning to Explain Tool-Use Development: A Study With a Simulated Robot Model. IEEE Transactions on Cognitive and Developmental Systems, 2022, 14, 75-89.	3.8	1
4	Neural Circuits Underlying Social Fear in Rodents: An Integrative Computational Model. Frontiers in Systems Neuroscience, 2022, 16, 841085.	2.5	0
5	Leveraging curiosity to encourage social interactions in children with Autism Spectrum Disorder: preliminary results using the interactive toy PlusMe. , 2022, , .		3
6	Integrating unsupervised and reinforcement learning in human categorical perception: A computational model. PLoS ONE, 2022, 17, e0267838.	2.5	3
7	Interactive soft toys to support social engagement through sensory-motor plays in early intervention of kids with special needs. , 2022, , .		2
8	â€œX-8â€• An Experimental Interactive Toy to Support Turn-Taking Games in Children with Autism Spectrum Disorders. Communications in Computer and Information Science, 2021, , 233-239.	0.5	1
9	REAL 2021 â€" Robot open-Ended Autonomous Learning: A Competition and Benchmark. , 2021, , .		1
10	Internal manipulation of perceptual representations in human flexible cognition: A computational model. Neural Networks, 2021, 143, 572-594.	5.9	3
11	Analysing autonomous open-ended learning of skills with different interdependent subgoals in robots. , 2021, , .		5
12	A 1D CNN for high accuracy classification and transfer learning in motor imagery EEG-based brain-computer interface. Journal of Neural Engineering, 2021, 18, 066053.	3.5	55
13	A Computational Model Integrating Multiple Phenomena on Cued Fear Conditioning, Extinction, and Reinstatement. Frontiers in Systems Neuroscience, 2020, 14, 569108.	2.5	5
14	Computational Modeling of Catecholamines Dysfunction in Alzheimerâ€™s Disease at Pre-Plaque Stage. Journal of Alzheimer's Disease, 2020, 77, 275-290.	2.6	15
15	A computational model of language functions in flexible goal-directed behaviour. Scientific Reports, 2020, 10, 21623.	3.3	9
16	Acceptability of the Transitional Wearable Companion â€œ+meâ€•in Children With Autism Spectrum Disorder: A Comparative Pilot Study. Frontiers in Psychology, 2020, 11, 951.	2.1	8
17	A generative spiking neural-network model of goal-directed behaviour and one-step planning. PLoS Computational Biology, 2020, 16, e1007579.	3.2	5
18	Special Issue â€œOn Defining Artificial Intelligenceâ€â€"Commentaries and Authorâ€™s Response. Journal of Artificial General Intelligence, 2020, 11, 1-100.	0.6	33

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19	An Embodied Agent Learning Affordances With Intrinsic Motivations and Solving Extrinsic Tasks With Attention and One-Step Planning. Frontiers in Neurorobotics, 2019, 13, 45.	2.8	10
20	Action Observation With Dual Task for Improving Cognitive Abilities in Parkinsonâ€™s Disease: A Pilot Study. Frontiers in Systems Neuroscience, 2019, 13, 7.	2.5	11
21	Different Dopaminergic Dysfunctions Underlying Parkinsonian Akinesia and Tremor. Frontiers in Neuroscience, 2019, 13, 550.	2.8	14
22	Acceptability of the Transitional Wearable Companion â€œ+meâ€•in Typical Children: A Pilot Study. Frontiers in Psychology, 2019, 10, 125.	2.1	3
23	The super-learning hypothesis: Integrating learning processes across cortex, cerebellum and basal ganglia. Neuroscience and Biobehavioral Reviews, 2019, 100, 19-34.	6.1	70
24	Autonomous Reinforcement Learning of Multiple Interrelated Tasks. , 2019, , .		14
25	Sensorimotor Contingencies as a Key Drive of Development: From Babies to Robots. Frontiers in Neurorobotics, 2019, 13, 98.	2.8	11
26	A Reinforcement Learning Architecture That Transfers Knowledge Between Skills When Solving Multiple Tasks. IEEE Transactions on Cognitive and Developmental Systems, 2019, 11, 292-317.	3.8	14
27	Editorial: Intrinsically Motivated Open-Ended Learning in Autonomous Robots. Frontiers in Neurorobotics, 2019, 13, 115.	2.8	19
28	A Computational Hypothesis on How Serotonin Regulates Catecholamines in the Pathogenesis of Depressive Apathy. Springer Series in Cognitive and Neural Systems, 2019, , 127-134.	0.1	2
29	Bio-Inspired Model Learning Visual Goals and Attention Skills Through Contingencies and Intrinsic Motivations. IEEE Transactions on Cognitive and Developmental Systems, 2018, 10, 326-344.	3.8	12
30	Action-outcome contingencies as the engine of open-ended learning: computational models and developmental experiments. , 2018, , .		5
31	Know Your Body Through Intrinsic Goals. Frontiers in Neurorobotics, 2018, 12, 30.	2.8	19
32	General differential Hebbian learning: Capturing temporal relations between events in neural networks and the brain. PLoS Computational Biology, 2018, 14, e1006227.	3.2	18
33	The Development of Reaching and Grasping. , 2018, , 319-348.		5
34	Consensus Paper: Towards a Systems-Level View of Cerebellar Function: the Interplay Between Cerebellum, Basal Ganglia, and Cortex. Cerebellum, 2017, 16, 203-229.	2.5	321
35	Interplay of prefrontal cortex and amygdala during extinction of drug seeking. Brain Structure and Function, 2017, 223, 1071-1089.	2.3	19
36	Action observation and motor imagery for rehabilitation in Parkinson's disease: A systematic review and an integrative hypothesis. Neuroscience and Biobehavioral Reviews, 2017, 72, 210-222.	6.1	143

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37	Intrinsically motivated discovered outcomes boost user's goals achievement in a humanoid robot. , 2017, , .		13
38	The architecture challenge: Future artificial-intelligence systems will require sophisticated architectures, and knowledge of the brain might guide their construction. Behavioral and Brain Sciences, 2017, 40, e254.	0.7	5
39	Dysfunctions of the basal ganglia-cerebellar-thalamo-cortical system produce motor tics in Tourette syndrome. PLoS Computational Biology, 2017, 13, e1005395.	3.2	82
40	Goal-Directed Behavior and Instrumental Devaluation: A Neural System-Level Computational Model. Frontiers in Behavioral Neuroscience, 2016, 10, 181.	2.0	28
41	Parkinsonâ€™s disease as a system-level disorder. Npj Parkinson's Disease, 2016, 2, 16025.	5.3	108
42	Appetitive Pavlovian-instrumental Transfer: A review. Neuroscience and Biobehavioral Reviews, 2016, 71, 829-848.	6.1	242
43	Transitional Wearable Companions: A Novel Concept of Soft Interactive Social Robots to Improve Social Skills in Children with Autism Spectrum Disorder. International Journal of Social Robotics, 2016, 8, 471-481.	4.6	26
44	GRAIL: A Goal-Discovering Robotic Architecture for Intrinsically-Motivated Learning. IEEE Transactions on Cognitive and Developmental Systems, 2016, 8, 214-231.	3.8	92
45	Interplay of Rhythmic and Discrete Manipulation Movements During Development: A Policy-Search Reinforcement-Learning Robot Model. IEEE Transactions on Cognitive and Developmental Systems, 2016, 8, 152-170.	3.8	15
46	Selection of cortical dynamics for motor behaviour by the basal ganglia. Biological Cybernetics, 2015, 109, 575-595.	1.3	65
47	The Relationship Between Specific Pavlovian Instrumental Transfer and Instrumental Reward Probability. Frontiers in Psychology, 2015, 6, 1697.	2.1	16
48	Generalisation, decision making, and embodiment effects in mental rotation: A neurorobotic architecture tested with a humanoid robot. Neural Networks, 2015, 72, 31-47.	5.9	21
49	Ecological Active Vision: Four Bioinspired Principles to Integrate Bottomâ€"Up and Adaptive Topâ€"Down Attention Tested With a Simple Camera-Arm Robot. IEEE Transactions on Autonomous Mental Development, 2015, 7, 3-25.	1.6	42
50	Corticolimbic catecholamines in stress: a computational model of the appraisal of controllability. Brain Structure and Function, 2015, 220, 1339-1353.	2.3	23
51	Intrinsic Motivations Drive Learning of Eye Movements: An Experiment with Human Adults. PLoS ONE, 2015, 10, e0118705.	2.5	13
52	Keep focussing: striatal dopamine multiple functions resolved in a single mechanism tested in a simulated humanoid robot. Frontiers in Psychology, 2014, 5, 124.	2.1	32
53	Intrinsic motivations and open-ended development in animals, humans, and robots: an overview. Frontiers in Psychology, 2014, 5, 985.	2.1	51
54	Integrating reinforcement learning, equilibrium points, and minimum variance to understand the development of reaching: A computational model.. Psychological Review, 2014, 121, 389-421.	3.8	57

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55	Learning where to look with movement-based intrinsic motivations: A bio-inspired model. , 2014, , .		4
56	Autonomous selection of the “what” and the “how” of learning: An intrinsically motivated system tested with a two armed robot. , 2014, , .		8
57	Learning parameterized motor skills on a humanoid robot. , 2014, , .		24
58	Modular and hierarchical brain organization to understand assimilation, accommodation and their relation to autism in reaching tasks: a developmental robotics hypothesis. Adaptive Behavior, 2014, 22, 304-329.	1.9	10
59	Exploration and learning in capuchin monkeys (Sapajus spp.): the role of actionâ€“outcome contingencies. Animal Cognition, 2014, 17, 1081-1088.	1.8	13
60	Development of goal-directed action selection guided by intrinsic motivations: an experiment with children. Experimental Brain Research, 2014, 232, 2167-2177.	1.5	21
61	Cumulative Learning Through Intrinsic Reinforcements. , 2014, , 107-122.		8
62	How affordances associated with a distractor object affect compatibility effects: A study with the computational model TRoPICALS. Psychological Research, 2013, 77, 7-19.	1.7	37
63	Intrinsically Motivated Learning in Natural and Artificial Systems. , 2013, , .		105
64	Theories and computational models of affordance and mirror systems: An integrative review. Neuroscience and Biobehavioral Reviews, 2013, 37, 491-521.	6.1	162
65	Functions and Mechanisms of Intrinsic Motivations. , 2013, , 49-72.		32
66	Intrinsically motivated actionâ€“outcome learning and goal-based action recall: A system-level bio-constrained computational model. Neural Networks, 2013, 41, 168-187.	5.9	75
67	The contribution of brain sub-cortical loops in the expression and acquisition of action understanding abilities. Neuroscience and Biobehavioral Reviews, 2013, 37, 2504-2515.	6.1	98
68	Different Genetic Algorithms and the Evolution of Specialization: A Study with Groups of Simulated Neural Robots. Artificial Life, 2013, 19, 221-253.	1.3	5
69	Phasic dopamine as a prediction error of intrinsic and extrinsic reinforcements driving both action acquisition and reward maximization: A simulated robotic study. Neural Networks, 2013, 39, 40-51.	5.9	36
70	The embodied mind extended: using words as social tools. Frontiers in Psychology, 2013, 4, 214.	2.1	61
71	Self-Organization as Phase Transition in Decentralized Groups of Robots: A Study Based on Boltzmann Entropy. Advanced Information and Knowledge Processing, 2013, , 157-177.	0.3	5
72	A spiking neuron model of the cortico-basal ganglia circuits for goal-directed and habitual action learning. Neural Networks, 2013, 41, 212-224.	5.9	43

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73	Intrinsically Motivated Learning Systems: An Overview. , 2013, , 1-14.		31
74	Modelling mental rotation in cognitive robots. Adaptive Behavior, 2013, 21, 299-312.	1.9	15
75	A cognitive robotic model of mental rotation. , 2013, , .		1
76	The Role of Learning and Kinematic Features in Dexterous Manipulation: A Comparative Study with Two Robotic Hands. International Journal of Advanced Robotic Systems, 2013, 10, 340.	2.1	9
77	Novelty or Surprise?. Frontiers in Psychology, 2013, 4, 907.	2.1	232
78	The nucleus accumbens as a nexus between values and goals in goal-directed behavior: a review and a new hypothesis. Frontiers in Behavioral Neuroscience, 2013, 7, 135.	2.0	124
79	The three principles of action: a Pavlovian-instrumental transfer hypothesis. Frontiers in Behavioral Neuroscience, 2013, 7, 153.	2.0	44
80	Which is the best intrinsic motivation signal for learning multiple skills?. Frontiers in Neurorobotics, 2013, 7, 22.	2.8	41
81	The â€œMechatronic Boardâ€: A Tool to Study Intrinsic Motivations in Humans, Monkeys, and Humanoid Robots. , 2013, , 411-432.		5
82	Learning Epistemic Actions in Model-Free Memory-Free Reinforcement Learning: Experiments with a Neuro-robotic Model. Lecture Notes in Computer Science, 2013, , 191-203.	1.3	6
83	The Hierarchical Organisation of Cortical and Basal-Ganglia Systems: A Computationally-Informed Review and Integrated Hypothesis. , 2013, , 237-270.		13
84	Deciding Which Skill to Learn When: Temporal-Difference Competence-Based Intrinsic Motivation (TD-CB-IM). , 2013, , 257-278.		9
85	Computational and Robotic Models of the Hierarchical Organization of Behavior: An Overview. , 2013, , 1-10.		0
86	A bio-inspired attention model of anticipation in gaze-contingency experiments with infants. , 2012, , .		8
87	A McKibben muscle arm learning equilibrium postures. , 2012, , .		3
88	The role of thumb opposition in cyclic manipulation: A study with two different robotic hands. , 2012, , .		2
89	A mechatronic platform for behavioral analysis on nonhuman primates. Journal of Integrative Neuroscience, 2012, 11, 87-101.	1.7	12
90	Reinforcement learning algorithms that assimilate and accommodate skills with multiple tasks. , 2012, , .		4

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91	A mechatronic platform for behavioral studies on infants. , 2012, , .		3
92	Intrinsic motivation mechanisms for competence acquisition. , 2012, , .		12
93	Hierarchical reinforcement learning and central pattern generators for modeling the development of rhythmic manipulation skills. , 2011, , .		10
94	What are intrinsic motivations? A biological perspective. , 2011, , .		58
95	Affordances of distractors and compatibility effects: a study with the computational model TRoPICALS. Nature Precedings, 2011, , .	0.1	4
96	Research on cognitive robotics at the Institute of Cognitive Sciences and Technologies, National Research Council of Italy. Cognitive Processing, 2011, 12, 367-374.	1.4	1
97	TRoPICALS: A computational embodied neuroscience model of compatibility effects.. Psychological Review, 2010, 117, 1188-1228.	3.8	134
98	The interplay of Pavlovian and instrumental processes in devaluation experiments: a computational embodied neuroscience model tested with a simulated rat. , 2010, , 93-113.		23
99	The roles of the amygdala in the affective regulation of body, brain, and behaviour. Connection Science, 2010, 22, 215-245.	3.0	58
100	A reinforcement learning model of reaching integrating kinematic and dynamic control in a simulated arm robot. , 2010, , .		8
101	How can bottom-up information shape learning of top-down attention-control skills?. , 2010, , .		9
102	Strengths and synergies of evolved and designed controllers: A study within collective robotics. Artificial Intelligence, 2009, 173, 857-875.	5.8	7
103	From Sensorimotor to Higher-Level Cognitive Processes: An Introduction to Anticipatory Behavior Systems. Lecture Notes in Computer Science, 2009, , 1-9.	1.3	4
104	AFFORDANCES AND COMPATIBILITY EFFECTS: A NEURAL-NETWORK COMPUTATIONAL MODEL. , 2009, , .		5
105	A NEURAL-NETWORK MODEL OF THE DYNAMICS OF HUNGER, LEARNING, AND ACTION VIGOR IN MICE. , 2009, , .		2
106	Self-Organization as Phase Transition in Decentralized Groups of Robots: A Study Based on Boltzmann Entropy. Advanced Information and Knowledge Processing, 2008, , 127-146.	0.3	10
107	Integrating Epistemic Action (Active Vision) and Pragmatic Action (Reaching): A Neural Architecture for Camera-Arm Robots. Lecture Notes in Computer Science, 2008, , 220-229.	1.3	10
108	A Computational Model of the Amygdala Nucleiâ€™s Role in Second Order Conditioning. Lecture Notes in Computer Science, 2008, , 321-330.	1.3	11

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109	A Reinforcement-Learning Model of Top-Down Attention Based on a Potential-Action Map. Lecture Notes in Computer Science, 2008, , 161-184.	1.3	2
110	Evolving internal reinforcers for an intrinsically motivated reinforcement-learning robot. , 2007, , .		50
111	Learning to select targets within targets in reaching tasks. , 2007, , .		10
112	A neural-network reinforcement-learning model of domestic chicks that learn to localize the centre of closed arenas. Philosophical Transactions of the Royal Society B: Biological Sciences, 2007, 362, 383-401.	4.0	13
113	Self-Organized Coordinated Motion in Groups of Physically Connected Robots. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 224-239.	5.0	84
114	Toward an integrated biomimetic model of reaching. , 2007, , .		9
115	Evolution and Learning in an Intrinsically Motivated Reinforcement Learning Robot. , 2007, , 294-303.		26
116	Distributed Coordination of Simulated Robots Based on Self-Organization. Artificial Life, 2006, 12, 289-311.	1.3	61
117	A Model of Reaching that Integrates Reinforcement Learning and Population Encoding of Postures. Lecture Notes in Computer Science, 2006, , 381-393.	1.3	8
118	Anticipations, Brains, Individual and Social Behavior: An Introduction to Anticipatory Systems. Lecture Notes in Computer Science, 2006, , 1-18.	1.3	9
119	From Actions to Goals and Vice-Versa: Theoretical Analysis and Models of the Ideomotor Principle and TOTE. Lecture Notes in Computer Science, 2006, , 73-93.	1.3	24
120	A Testbed for Neural-Network Models Capable of Integrating Information in Time. Lecture Notes in Computer Science, 2006, , 189-217.	1.3	0
121	The SWARM-BOTS Project. Lecture Notes in Computer Science, 2005, , 31-44.	1.3	49
122	Evolving Self-Organizing Behaviors for a Swarm-Bot. Autonomous Robots, 2004, 17, 223-245.	4.8	265
123	Coordination and Behaviour Integration in Cooperating Simulated Robots. , 2004, , 385-394.		2
124	Evolution of Collective Behavior in a Team of Physically Linked Robots. Lecture Notes in Computer Science, 2003, , 581-592.	1.3	14
125	Evolving Mobile Robots Able to Display Collective Behaviors. Artificial Life, 2003, 9, 255-267.	1.3	173
126	Forward and Bidirectional Planning Based on Reinforcement Learning and Neural Networks in a Simulated Robot. Lecture Notes in Computer Science, 2003, , 179-200.	1.3	15

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127	A modular neural-network model of the basal gangliaâ€™s role in learning and selecting motor behaviours. Cognitive Systems Research, 2002, 3, 5-13.	2.7	43
128	Endowing Artificial Systems with Anticipatory Capabilities: Success Cases. Lecture Notes in Computer Science, 0, , 237-254.	1.3	0
129	Emotions Modulate Affordances-Related Motor Responses: A Priming Experiment. Frontiers in Psychology, 0, 13, .	2.1	1
130	A Biologically Inspired Neural Network Model to Gain Insight Into the Mechanisms of Post-Traumatic Stress Disorder and Eye Movement Desensitization and Reprocessing Therapy. Frontiers in Psychology, 0, 13, .	2.1	0