Poramate Manoonpong

List of Publications by Year in descending order

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147 papers	2,216 citations	236925 25 h-index	302126 39 g-index
162 all docs	162 docs citations	162 times ranked	1342 citing authors

#	Article	IF	Citations
1	Self-organized adaptation of a simple neural circuit enables complex robot behaviour. Nature Physics, 2010, 6, 224-230.	16.7	182
2	Neural control and adaptive neural forward models for insect-like, energy-efficient, and adaptable locomotion of walking machines. Frontiers in Neural Circuits, 2013, 7, 12.	2.8	119
3	Adaptive Control Strategies for Interlimb Coordination in Legged Robots: A Review. Frontiers in Neurorobotics, 2017, 11, 39.	2.8	116
4	Adaptive, Fast Walking in a Biped Robot under Neuronal Control and Learning. PLoS Computational Biology, 2007, 3, e134.	3.2	83
5	Sensor-driven neural control for omnidirectional locomotion and versatile reactive behaviors of walking machines. Robotics and Autonomous Systems, 2008, 56, 265-288.	5.1	83
6	Adaptive and Energy Efficient Walking in a Hexapod Robot Under Neuromechanical Control and Sensorimotor Learning. IEEE Transactions on Cybernetics, 2016, 46, 2521-2534.	9.5	64
7	Decoding EEG Rhythms During Action Observation, Motor Imagery, and Execution for Standing and Sitting. IEEE Sensors Journal, 2020, 20, 13776-13786.	4.7	58
8	A Bio-inspired Climbing Robot with Flexible Pads and Claws. Journal of Bionic Engineering, 2018, 15, 368-378.	5.0	47
9	Inversion of friction anisotropy in a bio-inspired asymmetrically structured surface. Journal of the Royal Society Interface, 2018, 15, 20170629.	3.4	46
10	Multiple chaotic central pattern generators with learning for legged locomotion and malfunction compensation. Information Sciences, 2015, 294, 666-682.	6.9	43
11	Small-Sized Reconfigurable Quadruped Robot With Multiple Sensory Feedback for Studying Adaptive and Versatile Behaviors. Frontiers in Neurorobotics, 2020, 14, 14.	2.8	40
12	Visual terrain classification for selecting energy efficient gaits of a hexapod robot. , 2013, , .		38
13	Biologically-inspired adaptive obstacle negotiation behavior of hexapod robots. Frontiers in Neurorobotics, 2014, 8, 3.	2.8	37
14	Information dynamics based self-adaptive reservoir for delay temporal memory tasks. Evolving Systems, 2013, 4, 235-249.	3.9	36
15	Enhanced Locomotion Efficiency of a Bio-inspired Walking Robot using Contact Surfaces with Frictional Anisotropy. Scientific Reports, 2016, 6, 39455.	3.3	36
16	Simple analytical model reveals the functional role of embodied sensorimotor interaction in hexapod gaits. PLoS ONE, 2018, 13, e0192469.	2.5	36
17	Fast Dynamical Coupling Enhances Frequency Adaptation of Oscillators for Robotic Locomotion Control. Frontiers in Neurorobotics, 2017, 11, 14.	2.8	33
18	A Single-Channel Consumer-Grade EEG Device for Brainâ€“Computer Interface: Enhancing Detection of SSVEP and Its Amplitude Modulation. IEEE Sensors Journal, 2020, 20, 3366-3378.	4.7	33

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19	Insect-Inspired Robots: Bridging Biological and Artificial Systems. Sensors, 2021, 21, 7609.	3.8	32
20	Generic Neural Locomotion Control Framework for Legged Robots. IEEE Transactions on Neural Networks and Learning Systems, 2021, 32, 4013-4025.	11.3	30
21	iCrawl: An Inchworm-Inspired Crawling Robot. IEEE Access, 2020, 8, 200655-200668.	4.2	30
22	Stability analysis of a hexapod robot driven by distributed nonlinear oscillators with a phase modulation mechanism. , 2013, , .		28
23	Distributed recurrent neural forward models with synaptic adaptation and CPG-based control for complex behaviors of walking robots. Frontiers in Neurorobotics, 2015, 9, 10.	2.8	28
24	Synaptic plasticity in a recurrent neural network for versatile and adaptive behaviors of a walking robot. Frontiers in Neurorobotics, 2015, 9, 11.	2.8	28
25	Modular Reactive Neurocontrol for Biologically Inspired Walking Machines. International Journal of Robotics Research, 2007, 26, 301-331.	8.5	27
26	A Neurocomputational Model of Goal-Directed Navigation in Insect-Inspired Artificial Agents. Frontiers in Neurorobotics, 2017, 11, 20.	2.8	26
27	A Fast Online Frequency Adaptation Mechanism for CPG-Based Robot Motion Control. IEEE Robotics and Automation Letters, 2019, 4, 3324-3331.	5.1	26
28	Adaptive Motor Control for Human-like Spatial-temporal Adaptation. , 2018, , .		25
29	Efference copies in neural control of dynamic biped walking. Robotics and Autonomous Systems, 2009, 57, 1140-1153.	5.1	21
30	Neuromechanical control for hexapedal robot walking on challenging surfaces and surface classification. Robotics and Autonomous Systems, 2014, 62, 1777-1789.	5.1	21
31	Development of Autonomous Drones for Adaptive Obstacle Avoidance in Real World Environments. , 2018, , .		21
32	Biologically inspired reactive climbing behavior of hexapod robots. , 2012, , .		20
33	Flexible Spiking CPGs for Online Manipulation During Hexapod Walking. Frontiers in Neurorobotics, 2020, 14, 41.	2.8	20
34	Lateral Undulation of the Bendable Body of a Gecko-Inspired Robot for Energy-Efficient Inclined Surface Climbing. IEEE Robotics and Automation Letters, 2021, 6, 7917-7924.	5.1	20
35	Neuromodulatory adaptive combination of correlation-based learning in cerebellum and reward-based learning in basal ganglia for goal-directed behavior control. Frontiers in Neural Circuits, 2014, 8, 126.	2.8	19
36	SMOOTH Robot: Design for a Novel Modular Welfare Robot. Journal of Intelligent and Robotic Systems: Theory and Applications, 2020, 98, 19-37.	3.4	19

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37	A robot leg with compliant tarsus and its neural control for efficient and adaptive locomotion on complex terrains. Artificial Life and Robotics, 2016, 21, 274-281.	1.2	18
38	CPG Driven RBF Network Control with Reinforcement Learning for Gait Optimization of a Dung Beetle-Like Robot. Lecture Notes in Computer Science, 2019, , 698-710.	1.3	18
39	Lateral undulation of the flexible spine of sprawling posture vertebrates. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2018, 204, 707-719.	1.6	15
40	Error-Based Learning Mechanism for Fast Online Adaptation in Robot Motor Control. IEEE Transactions on Neural Networks and Learning Systems, 2020, 31, 2042-2051.	11.3	15
41	Virtual agonist-antagonist mechanisms produce biological muscle-like functions. Industrial Robot, 2014, 41, 340-346.	2.1	14
42	General Distributed Neural Control and Sensory Adaptation for Self-Organized Locomotion and Fast Adaptation to Damage of Walking Robots. Frontiers in Neural Circuits, 2020, 14, 46.	2.8	14
43	Visual Goal Human-Robot Communication Framework With Few-Shot Learning: A Case Study in Robot Waiter System. IEEE Transactions on Industrial Informatics, 2022, 18, 1883-1891.	11.3	14
44	A Low-Cost, Compact, Sealed, Three-Axis Force/Torque Sensor for Walking Robots. IEEE Sensors Journal, 2021, 21, 8916-8926.	4.7	14
45	Continuous Online Adaptation of Bioinspired Adaptive Neuroendocrine Control for Autonomous Walking Robots. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 1833-1845.	11.3	14
46	Bio-Inspired Adaptive Locomotion Control System for Online Adaptation of a Walking Robot on Complex Terrains. IEEE Access, 2020, 8, 91587-91602.	4.2	13
47	Using efference copy and a forward internal model for adaptive biped walking. Autonomous Robots, 2010, 29, 357-366.	4.8	12
48	Hybrid soft-rigid foot with dry adhesive material designed for a gecko-inspired climbing robot. , 2020, , .		12
49	Distributed-force-feedback-based reflex with online learning for adaptive quadruped motor control. Neural Networks, 2021, 142, 410-427.	5.9	12
50	Dynamical Systems in the Sensorimotor Loop: On the Interrelation Between Internal and External Mechanisms of Evolved Robot Behavior. Lecture Notes in Computer Science, 2007, , 186-195.	1.3	12
51	Adaptive neural oscillators with synaptic plasticity for locomotion control of a snake-like robot with screw-drive mechanism. , 2013, , .		11
52	Framework for Developing Bio-Inspired Morphologies for Walking Robots. Applied Sciences (Switzerland), 2020, 10, 6986.	2.5	11
53	A gecko-inspired robot with CPG-based neural control for locomotion and body height adaptation. Bioinspiration and Biomimetics, 2022, 17, 036008.	2.9	11
54	A reconfigurable spherical robot. , 2011, , .		10

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55	COMBINING CORRELATION-BASED AND REWARD-BASED LEARNING IN NEURAL CONTROL FOR POLICY IMPROVEMENT. International Journal of Modeling, Simulation, and Scientific Computing, 2013, 16, 1350015.	1.4	10
56	The RunBot Architecture for Adaptive, Fast, Dynamic Walking. , 2007, , .		9
57	Multiple chaotic central pattern generators for locomotion generation and leg damage compensation in a hexapod robot. , 2012, , .		9
58	Adaptive neural control for self-organized locomotion and obstacle negotiation of quadruped robots. , 2018, , .		9
59	Adaptive parallel reflex- and decoupled CPG-based control for complex bipedal locomotion. Robotics and Autonomous Systems, 2020, 134, 103663.	5.1	9
60	Locomotion Control With Frequency and Motor Pattern Adaptations. Frontiers in Neural Circuits, 2021, 15, 743888.	2.8	9
61	Versatile modular neural locomotion control with fast learning. Nature Machine Intelligence, 2022, 4, 169-179.	16.0	9
62	Modular Neural Control for Gait Adaptation and Obstacle Avoidance of a Tailless Gecko Robot. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 101, 1.	3.4	8
63	Robust Actuator Fault Diagnosis Algorithm for Autonomous Hexacopter UAVs. IFAC-PapersOnLine, 2020, 53, 682-687.	0.9	8
64	Neural Processing of Auditory Signals and Modular Neural Control for Sound Tropism of Walking Machines. International Journal of Advanced Robotic Systems, 2005, 2, 22.	2.1	7
65	Reinforcement learning approach to generate goal-directed locomotion of a snake-like robot with screw-drive units. , 2014, , .		7
66	Bio-inspired design and movement generation of dung beetle-like legs. Artificial Life and Robotics, 2018, 23, 555-563.	1.2	7
67	Integrating Non-spiking Interneurons in Spiking Neural Networks. Frontiers in Neuroscience, 2021, 15, 633945.	2.8	7
68	Echo State Networks for Estimating Exteroceptive Conditions From Proprioceptive States in Quadruped Robots. Frontiers in Neurorobotics, 2021, 15, 655330.	2.8	7
69	Mini Review: Comparison of Bio-Inspired Adhesive Feet of Climbing Robots on Smooth Vertical Surfaces. Frontiers in Bioengineering and Biotechnology, 2021, 9, 765718.	4.1	7
70	Biologically inspired modular neural control for a leg-wheel hybrid robot. Advances in Robotics Research, 2014, 1, 101-126.	0.1	7
71	Adaptive Neural Oscillator with Synaptic Plasticity Enabling Fast Resonance Tuning. Lecture Notes in Computer Science, 2012, , 451-458.	1.3	6
72	Reservoir-based online adaptive forward models with neural control for complex locomotion in a hexapod robot. , 2014, , .		6

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73	A neural path integration mechanism for adaptive vector navigation in autonomous agents. , 2015, , .		6
74	A dung beetle-inspired robotic model and its distributed sensor-driven control for walking and ball rolling. Artificial Life and Robotics, 2018, 23, 435-443.	1.2	6
75	A scalable Echo State Networks hardware generator for embedded systems using high-level synthesis. , 2019, , .		6
76	Rules for the Leg Coordination of Dung Beetle Ball Rolling Behaviour. Scientific Reports, 2020, 10, 9278.	3.3	6
77	A Comparative Study of Adaptive Interlimb Coordination Mechanisms for Self-Organized Robot Locomotion. Frontiers in Robotics and AI, 2021, 8, 638684.	3.2	6
78	Getting grip in changing environments: the effect of friction anisotropy inversion on robot locomotion. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	2.3	6
79	A SIMPLIFIED VARIABLE ADMITTANCE CONTROLLER BASED ON A VIRTUAL AGONIST-ANTAGONIST MECHANISM FOR ROBOT JOINT CONTROL. , 2013, , .		6
80	Learning-Based Multifunctional Elbow Exoskeleton Control. IEEE Transactions on Industrial Electronics, 2022, 69, 9216-9224.	7.9	6
81	The SMOOTH-Robot: A Modular, Interactive Service Robot. Frontiers in Robotics and AI, 2021, 8, 645639.	3.2	6
82	Compliant ankles and flat feet for improved self-stabilization and passive dynamics of the biped robot “RunBot”. , 2011, , .		5
83	A PZT modeling for energy harvesting circuits. , 2011, , .		5
84	Editorial: Neural Computation in Embodied Closed-Loop Systems for the Generation of Complex Behavior: From Biology to Technology. Frontiers in Neurorobotics, 2018, 12, 53.	2.8	5
85	No Need for Landmarks: An Embodied Neural Controller for Robust Insect-Like Navigation Behaviors. IEEE Transactions on Cybernetics, 2022, 52, 12893-12904.	9.5	5
86	OBSTACLE/GAP DETECTION AND TERRAIN CLASSIFICATION OF WALKING ROBOTS BASED ON A 2D LASER RANGE FINDER. , 2013, , .		5
87	Modular neural control for a reactive behavior of walking machines. , 2005, , .		4
88	Exploring the dynamic walking range of the biped robot "Run Bot" with an active upper-body component. , 2006, , .		4
89	Modular Neural Control for Bio-Inspired Walking and Ball Rolling of a Dung Beetle-Like Robot. , 2018, , .		4
90	Neural computational model GrowthEstimate: A model for studying living resources through digestive efficiency. PLoS ONE, 2019, 14, e0216030.	2.5	4

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91	Neural Control for Gait Generation and Adaptation of a Gecko Robot. , 2019, , .		4
92	A neuroplasticity-inspired neural circuit for acoustic navigation with obstacle avoidance that learns smooth motion paths. Neural Computing and Applications, 2019, 31, 1765-1781.	5.6	4
93	Concurrent intramodal learning enhances multisensory responses of symmetric crossmodal learning in robotic audio-visual tracking. Cognitive Systems Research, 2019, 54, 138-153.	2.7	4
94	Adaptive Neuromechanical Control forÂRobust Behaviors of Bio-Inspired Walking Robots. Lecture Notes in Computer Science, 2020, , 775-786.	1.3	4
95	Electromagnetic Feet With Soft Toes for Adaptive, Versatile, and Stable Locomotion of an Inchworm-Inspired Pipe Crawling Robot. Frontiers in Bioengineering and Biotechnology, 2022, 10, 842816.	4.1	4
96	Neural preprocessing of auditory-wind sensory signals and modular neural control for auditory- and wind-evoked escape responses of walking machines. , 2009, , .		3
97	Neural Combinatorial Learning of Goal-Directed Behavior with Reservoir Critic and Reward Modulated Hebbian Plasticity. , 2013, , .		3
98	Learning and Chaining of Motor Primitives for Goal-directed Locomotion of a Snakelike Robot with Screw-drive Units. International Journal of Advanced Robotic Systems, 0, , 1.	2.1	3
99	Adaptive Combinatorial Neural Control for Robust Locomotion of a Biped Robot. Lecture Notes in Computer Science, 2016, , 317-328.	1.3	3
100	An Adaptive Neural Mechanism with a Lizard Ear Model for Binaural Acoustic Tracking. Lecture Notes in Computer Science, 2016, , 79-90.	1.3	3
101	Modular Neural Mechanisms for Gait Phase Tracking, Prediction, and Selection in Personalizable Knee-Ankle-Foot-Orthoses. Frontiers in Neurorobotics, 2018, 12, 37.	2.8	3
102	Teaching Hardware Implementation of Neural Networks using High-Level Synthesis in Less Than Four Hours for Engineering Education of Intelligent Embedded Computing. , 2019, , .		3
103	Neural Control with an Artificial Hormone System for Energy-Efficient Compliant Terrain Locomotion and Adaptation of Walking Robots. , 2019, , .		3
104	Generic Mechanism for Waveform Regulation and Synchronization of Oscillators: An Application for Robot Behavior Diversity Generation. IEEE Transactions on Cybernetics, 2022, 52, 4495-4507.	9.5	3
105	Online sensorimotor learning and adaptation for inverse dynamics control. Neural Networks, 2021, 143, 525-536.	5.9	3
106	A Neuromechanical Controller of a Hexapod Robot for Walking on Sponge, Gravel and Snow Surfaces. , 0, , .		3
107	A Variable Soft Finger Exoskeleton for Quantifying Fatigue-induced Mechanical Impedance. , 2021, , .		3
108	Cylindrical Terrain Classification Using a Compliant Robot Foot with a Flexible Tactile-Array Sensor for Legged Robots. Lecture Notes in Computer Science, 2018, , 136-146.	1.3	3

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109	Online Gait Adaptation of a Hexapod Robot Using an Improved Artificial Hormone Mechanism. Lecture Notes in Computer Science, 2018, , 212-222.	1.3	3
110	Fin Ray Crossbeam Angles for Efficient Foot Design for Energyâ€Efficient Robot Locomotion. Advanced Intelligent Systems, 2022, 4, 2100133.	6.1	3
111	An Adaptive Neural Mechanism for Acoustic Motion Perception with Varying Sparsity. Frontiers in Neurorobotics, 2017, 11, 11.	2.8	2
112	Development of a Real-Time Motor-Imagery-Based EEG Brain-Machine Interface. Lecture Notes in Computer Science, 2018, , 610-622.	1.3	2
113	AHEAD: Automatic Holistic Energy-Aware Design Methodology for MLP Neural Network Hardware Generation in Proactive BMI Edge Devices. Energies, 2020, 13, 2180.	3.1	2
114	VENOM: Versatile, Adhesive, and Soft Material for Various Surface Adhesion. , 2021, , .		2
115	Towards Crossmodal Learning for Smooth Multimodal Attention Orientation. Lecture Notes in Computer Science, 2018, , 318-328.	1.3	2
116	Adaptive Neural CPG-Based Control for a Soft Robotic Tentacle. Lecture Notes in Computer Science, 2020, , 762-774.	1.3	2
117	Artificial Neural Network Based Compliant Control for Robot Arms. Lecture Notes in Computer Science, 2016, , 91-100.	1.3	2
118	Extraction of Reward-Related Feature Space Using Correlation-Based and Reward-Based Learning Methods. Lecture Notes in Computer Science, 2010, , 414-421.	1.3	2
119	Adaptive Landmark-Based Navigation System Using Learning Techniques. Lecture Notes in Computer Science, 2014, , 121-131.	1.3	2
120	Neural Control and Synaptic Plasticity for Adaptive Obstacle Avoidance of Autonomous Drones. Lecture Notes in Computer Science, 2018, , 177-188.	1.3	2
121	Adaptive Neural Control for Efficient Rhythmic Movement Generation and Online Frequency Adaptation of a Compliant Robot Arm. Communications in Computer and Information Science, 2020, , 695-703.	0.5	2
122	NeuroVis: Real-Time Neural Information Measurement and Visualization of Embodied Neural Systems. Frontiers in Neural Circuits, 2021, 15, 743101.	2.8	2
123	Neural Control and Online Learning for Speed Adaptation of Unmanned Aerial Vehicles. Frontiers in Neural Circuits, 2022, 16, 839361.	2.8	2
124	Neural Control and Learning for Versatile, Adaptive, Autonomous Behavior of Walking Machines. , 2008, , .		1
125	The development of a biomechanical leg system and its neural control. , 2009, , .		1
126	Reservoir of neurons with adaptive time constants: a hybrid model for robust motor-sensory temporal processing. BMC Neuroscience, 2014, 15, .	1.9	1

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127	Modular Neural Control for Object Transportation of a Bio-inspired Hexapod Robot. Lecture Notes in Computer Science, 2016, , 67-78.	1.3	1
128	Closed-loop dynamic computations for adaptive behavior (articles based on SAB2018 conference). Adaptive Behavior, 2020, 28, 125-127.	1.9	1
129	Editorial: Biology-Inspired Engineering and Engineering-Inspired Biology. Frontiers in Neurorobotics, 2020, 14, 614683.	2.8	1
130	Advanced Collaborative Robots for the Factory of the Future. , 2021, , .		1
131	Designing Simple Nonlinear Filters Using Hysteresis of Single Recurrent Neurons for Acoustic Signal Recognition in Robots. Lecture Notes in Computer Science, 2010, , 374-383.	1.3	1
132	NEURAL CONTROL OF A THREE-LEGGED RECONFIGURABLE ROBOT WITH OMNIDIRECTIONAL WHEELS. , 2013, , .		1
133	Haptic Feedback with a Reservoir Computing-Based Recurrent Neural Network for Multiple Terrain Classification of a Walking Robot. Lecture Notes in Computer Science, 2019, , 233-244.	1.3	1
134	Dynamical State Forcing on Central Pattern Generators for Efficient Robot Locomotion Control. Lecture Notes in Computer Science, 2020, , 799-810.	1.3	1
135	GRAB: GRAdient-Based Shape-Adaptive Locomotion Control. IEEE Robotics and Automation Letters, 2022, 7, 1087-1094.	5.1	1
136	The Roles and Comparison of Rigid and Soft Tails in Gecko-Inspired Climbing Robots: A Mini-Review. Frontiers in Bioengineering and Biotechnology, 0, 10, .	4.1	1
137	INTERNAL MODELS SUPPORT SPECIFIC GAITS IN ORTHOTIC DEVICES. , 2014, , .		0
138	Predictive Acoustic Tracking with an Adaptive Neural Mechanism. Procedia Computer Science, 2017, 105, 99-104.	2.0	0
139	Virtual Motoneuron Activation for Goal-directed Locomotion of a Hexapod Robot. , 2020, , .		0
140	Editorial: Integrated Multi-modal and Sensorimotor Coordination for Enhanced Human-Robot Interaction. Frontiers in Neurorobotics, 2021, 15, 673659.	2.8	0
141	A Compliant Leg Structure for Terrestrial and Aquatic Walking Robots. Lecture Notes in Networks and Systems, 2022, , 69-80.	0.7	0
142	COMPARING ARC-SHAPED FEET AND RIGID ANKLES WITH FLAT FEET AND COMPLIANT ANKLES FOR A DYNAMIC WALKER. , 2014, , .		0
143	Autobot for Effective Design Space Exploration and Agile Generation of RBFNN Hardware Accelerator in Embedded Real-time Computing. , 2020, , .		0
144	End-to-End Rapid FPGA Prototyping for Embedded Proactive BMI Control. , 2020, , .		0

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145	Editorial: Biological and Robotic Inter-Limb Coordination. Frontiers in Robotics and AI, 2022, 9, 875493.	3.2	0
146	Morphological Adaptation for Speed Control of Pipeline Inspection Gauges MC-PIG. , 2021, , .		0
147	Network Architecture Producing Swing to Stance Transitions in an Insect Walking System. Frontiers in Insect Science, 2022, 2, .	2.1	0