Hartmut Geyer

List of Publications by Year
in descending order

51 papers	3,927 citations	430874 18 h-index	580821 25 g-index
52 all docs	52 docs citations	52 times ranked	2090 citing authors

#	Article	IF	Citations
1	Comparison of Balance Recovery Among Current Control Strategies for Robotic Leg Prostheses. Biosystems and Biorobotics, 2022, , 63-67.	0.3	1
2	A neuromuscular model of human locomotion combines spinal reflex circuits with voluntary movements. Scientific Reports, 2022, 12, 8189.	3.3	7
3	Comprehensive Swing Leg Motion Predictor for Steady and Transient Walking Conditions. , 2022, , .		1
4	Policy Decomposition: Approximate Optimal Control with Suboptimality Estimates. , 2021, , .		0
5	A model for the transfer of control from the brain to the spinal cord through synaptic learning. Journal of Computational Neuroscience, 2020, 48, 365-375.	1.0	2
6	Interactions Between Different Age-Related Factors Affecting Balance Control in Walking. Frontiers in Sports and Active Living, 2020, 2, 94.	1.8	13
7	Using Deep Reinforcement Learning to Learn High-Level Policies on the ATRIAS Biped. , 2019, , .		33
8	Robust and Adaptive Lower Limb Prosthesis Stance Control via Extended Kalman Filter-Based Gait Phase Estimation. IEEE Robotics and Automation Letters, 2019, 4, 3129-3136.	5.1	49
9	Online Learning for Proactive Obstacle Avoidance with Powered Transfemoral Prostheses. , 2019, , .		4
10	Neuromuscular Control Models of Human Locomotion. , 2019, , 979-1007.		1
11	Predictive neuromechanical simulations indicate why walking performance declines with ageing. Journal of Physiology, 2018, 596, 1199-1210.	2.9	94
12	An Overview on Principles for Energy Efficient Robot Locomotion. Frontiers in Robotics and AI, 2018, 5, 129.	3.2	60
13	A Neuro-Musculo-Skeletal Model of Human Standing Combining Muscle-Reflex Control and Virtual Model Control. , 2018, 2018, 5590-5593.		9
14	A Method for Online Optimization of Lower Limb Assistive Devices with High Dimensional Parameter Spaces. , 2018, , .		11
15	Bayesian Optimization Using Domain Knowledge on the ATRIAS Biped. , 2018, , .		32
16	The Benefit of Combining Neuronal Feedback and Feed-Forward Control for Robustness in Step Down Perturbations of Simulated Human Walking Depends on the Muscle Function. Frontiers in Computational Neuroscience, 2018, 12, 80.	2.1	20
17	Objective Assessment of Spasticity With a Method Based on a Human Upper Limb Model. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 1414-1423.	4.9	23
18	Walking and Running with Passive Compliance: Lessons from Engineering: A Live Demonstration of the ATRIAS Biped. IEEE Robotics and Automation Magazine, 2018, 25, 23-39.	2.0	53

#	Article	IF	Citations
19	Dynamic bipedal locomotion over stochastic discrete terrain. International Journal of Robotics Research, 2018, 37, 1537-1553.	8.5	25
20	Experimental Evaluation of Deadbeat Running on the ATRIAS Biped. IEEE Robotics and Automation Letters, 2017, 2, 1085-1092.	5.1	22
21	A Sample-Efficient Black-Box Optimizer to Train Policies for Human-in-the-Loop Systems With User Preferences. IEEE Robotics and Automation Letters, 2017, 2, 993-1000.	5.1	17
22	Toward Balance Recovery with Active Leg Prostheses Using Neuromuscular Model Control. Biosystems and Biorobotics, 2017, , 649-652.	0.3	7
23	Evaluation of a Neuromechanical Walking Control Model Using Disturbance Experiments. Frontiers in Computational Neuroscience, 2017, 11, 15.	2.1	52
24	Neuromuscular Models for Locomotion. , 2017, , 401-453.		9
25	Neuromuscular Control Models of Human Locomotion. , 2017, , 1-30.		0
26	Toward Balance Recovery With Leg Prostheses Using Neuromuscular Model Control. IEEE Transactions on Biomedical Engineering, 2016, 63, 904-913.	4.2	87
27	Robust spring mass model running for a physical bipedal robot. , 2015, , .		19
28	Evaluation of decentralized reactive swing-leg control on a powered robotic leg. , 2015, , .		2
29	A neural circuitry that emphasizes spinal feedback generates diverse behaviours of human locomotion. Journal of Physiology, 2015, 593, 3493-3511.	2.9	216
30	Regulating speed in a neuromuscular human running model. , 2015, , .		6
31	Toward a virtual neuromuscular control for robust walking in bipedal robots. , 2015, , .		8
32	Control and evaluation of series elastic actuators with nonlinear rubber springs. , 2015, , .		28
33	Touch-down angle control for spring-mass walking. , 2015, , .		17
34	Compact nonlinear springs with user defined torque-deflection profiles for series elastic actuators. , 2014, , .		29
35	Highly robust running of articulated bipeds in unobserved terrain. , 2014, , .		12
36	Towards local reflexive control of a powered transfemoral prosthesis for robust amputee push and trip recovery. , 2014, , .		7

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37	The 3-D Springâ€“Mass Model Reveals a Time-Based Deadbeat Control for Highly Robust Running and Steering in Uncertain Environments. IEEE Transactions on Robotics, 2013, 29, 1114-1124.	10.3	82
38	Muscle-reflex control of robust swing leg placement. , 2013, , .		21
39	Generalization of a muscle-reflex control model to 3D walking. , 2013, 2013, 7463-6.		11
40	Integration of an adaptive swing control into a neuromuscular human walking model. , 2013, 2013, 4915-8.		6
41	Regulating speed and generating large speed transitions in a neuromuscular human walking model. , 2012, , .		28
42	Robust swing leg placement under large disturbances. , 2012, , .		23
43	The energetic cost of adaptive feet in walking. , 2011, , .		9
44	Reactive balance control in walking based on a bipedal linear inverted pendulum model. , 2011, , .		9
45	Control of a Powered Ankleâ€“Foot Prosthesis Based on a Neuromuscular Model. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2010, 18, 164-173.	4.9	344
46	A Muscle-Reflex Model That Encodes Principles of Legged Mechanics Produces Human Walking Dynamics and Muscle Activities. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2010, 18, 263-273.	4.9	499
47	Compliant leg behaviour explains basic dynamics of walking and running. Proceedings of the Royal Society B: Biological Sciences, 2006, 273, 2861-2867.	2.6	744
48	Spring-mass running: simple approximate solution and application to gait stability. Journal of Theoretical Biology, 2005, 232, 315-328.	1.7	238
49	Positive force feedback in bouncing gaits?. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, 2173-2183.	2.6	210
50	Swing-leg retraction: a simple control model for stable running. Journal of Experimental Biology, 2003, 206, 2547-2555.	1.7	316
51	A movement criterion for running. Journal of Biomechanics, 2002, 35, 649-655.	2.1	410