Matthew Millard

List of Publications by Year
in descending order

34 papers	1,835 citations	759233 12 h-index	552781 26 g-index
36 all docs	36 docs citations	36 times ranked	1781 citing authors

#	Article	IF	Citations
1	OpenSim: Simulating musculoskeletal dynamics and neuromuscular control to study human and animal movement. PLoS Computational Biology, 2018, 14, e1006223.	3.2	735
2	Flexing Computational Muscle: Modeling and Simulation of Musculotendon Dynamics. Journal of Biomechanical Engineering, 2013, 135, 021005.	1.3	465
3	How muscle fiber lengths and velocities affect muscle force generation as humans walk and run at different speeds. Journal of Experimental Biology, 2013, 216, 2150-60.	1.7	197
4	Sizzle: A standards-based end-to-end security architecture for the embedded Internet. Pervasive and Mobile Computing, 2005, 1, 425-445.	3.3	97
5	Gait stability in children with Cerebral Palsy. Research in Developmental Disabilities, 2013, 34, 1689-1699.	2.2	43
6	Motion Optimization and Parameter Identification for a Human and Lower Back Exoskeleton Model. IEEE Robotics and Automation Letters, 2017, 2, 1564-1570.	5.1	36
7	Predicting the Motions and Forces of Wearable Robotic Systems Using Optimal Control. Frontiers in Robotics and AI, 2017, 4, .	3.2	36
8	Human Foot Placement and Balance in the Sagittal Plane. Journal of Biomechanical Engineering, 2009, 131, 121001.	1.3	35
9	Foot Placement and Balance in 3D. Journal of Computational and Nonlinear Dynamics, 2012, 7, .	1.2	25
10	Optimal Control Based Stiffness Identification of an Ankle-Foot Orthosis Using a Predictive Walking Model. Frontiers in Computational Neuroscience, 2017, 11, 23.	2.1	19
11	A reduced muscle model and planar musculoskeletal model fit for the simulation of whole-body movements. Journal of Biomechanics, 2019, 89, 11-20.	2.1	17
12	3D dynamic modelling and simulation of a golf drive. Procedia Engineering, 2010, 2, 3243-3248.	1.2	15
13	Forward dynamic human gait simulation using a SLIP target model. Procedia IUTAM, 2011, 2, 142-157.	1.2	11
14	Slow but Steady: Similar Sit-to-Stand Balance at Seat-Off in Older vs. Younger Adults. Frontiers in Sports and Active Living, 2020, 2, 548174.	1.8	10
15	Towards low back support with a passive biomimetic exo-spine. , 2017, 2017, 1165-1170.		9
16	Parameter optimization for passive spinal exoskeletons based on experimental data and optimal control. , 2017, , .		9
17	Predicting the influence of hip and lumbar flexibility on lifting motions using optimal control. Journal of Biomechanics, 2018, 78, 118-125.	2.1	9
18	Multi-Step Forward Dynamic Gait Simulation. , 2009, , 25-43.		8

#	Article	IF	Citations
19	A Computationally Efficient Muscle Model. , 2012, , .		8
20	A Quick Turn of Foot: Rigid Foot-Ground Contact Models for Human Motion Prediction. Frontiers in Neurorobotics, 2019, 13, 62.	2.8	8
21	A little damping goes a long way: a simulation study of how damping influences task-level stability in running. Biology Letters, 2020, 16, 20200467.	2.3	8
22	Comparing the risk of low-back injury using model-based optimization: Improved technique versus exoskeleton assistance. Wearable Technologies, 2021, 2, .	3.1	6
23	Cost function evaluation for optimizing design and actuation of an active exoskeleton to ergonomically assist lifting motions. , 2019, , .		4
24	Biomechanical Analysis of the Slow-Twitch (Red) Muscle Force Transmission Pathways in Tunas. Physiological and Biochemical Zoology, 2020, 93, 185-198.	1.5	4
25	A Continuous and Differentiable Mechanical Model of Muscle Force and Impedance. Biosystems and Biorobotics, 2019, , 262-266.	0.3	4
26	Polygon-Based Drawing Accuracy Analysis and Positive/Negative Space. Art and Perception, 2014, 2, 213-236.	0.5	3
27	Optimizing Wearable Assistive Devices with Neuromuscular Models and Optimal Control. Biosystems and Biorobotics, 2017, , 627-632.	0.3	3
28	Tuning pianos using reinforcement learning. Applied Acoustics, 2007, 68, 576-593.	3.3	1
29	Player testing and statistical analysis of two different methods for spine-aligning golf club shafts. Procedia Engineering, 2010, 2, 3355-3360.	1.2	1
30	Optimizing Design Characteristics of Passive and Active Spinal Exoskeletons for Challenging Work Tasks. Biosystems and Biorobotics, 2019, , 249-253.	0.3	1
31	Drawing accuracy measured using polygons. Proceedings of SPIE, 2013, , .	0.8	0
32	Model-Based Optimization for the Design of Exoskeletons that Help Humans to Sustain Large Pushes While Walking. Biosystems and Biorobotics, 2017, , 821-825.	0.3	0
33	Effect of Rollator Assistance on Sit-to-Stand Balance in Older Adults. Biosystems and Biorobotics, 2022, , 127-132.	0.3	0
34	I3SA: The Increased Step Size Stability Assessment Benchmark and its Application to the Humanoid Robot REEM-C. , 2021, , .		0