Ajay Seth

List of Publications by Year
in descending order

29 papers	4,129 citations	361045 20 h-index	525886 27 g-index
35 all docs	35 docs citations	35 times ranked	3093 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.	1.5	735
2	Muscle contributions to propulsion and support during running. Journal of Biomechanics, 2010, 43, 2709-2716.	0.9	608
3	Is My Model Good Enough? Best Practices for Verification and Validation of Musculoskeletal Models and Simulations of Movement. Journal of Biomechanical Engineering, 2015, 137, 020905.	0.6	509
4	Flexing Computational Muscle: Modeling and Simulation of Musculotendon Dynamics. Journal of Biomechanical Engineering, 2013, 135, 021005.	0.6	465
5	OpenSim: a musculoskeletal modeling and simulation framework for in silico investigations and exchange. Procedia IUTAM, 2011, 2, 212-232.	1.2	219
6	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.	0.8	197
7	Simbody: multibody dynamics for biomedical research. Procedia IUTAM, 2011, 2, 241-261.	1.2	193
8	Muscle contributions to support and progression during single-limb stance in crouch gait. Journal of Biomechanics, 2010, 43, 2099-2105.	0.9	170
9	Are Subject-Specific Musculoskeletal Models Robust to the Uncertainties in Parameter Identification?. PLoS ONE, 2014, 9, e112625.	1.1	146
10	Simulating Ideal Assistive Devices to Reduce the Metabolic Cost of Running. PLoS ONE, 2016, 11, e0163417.	1.1	127
11	A Biomechanical Model of the Scapulothoracic Joint to Accurately Capture Scapular Kinematics during Shoulder Movements. PLoS ONE, 2016, 11, e0141028.	1.1	106
12	A neuromusculoskeletal tracking method for estimating individual muscle forces in human movement. Journal of Biomechanics, 2007, 40, 356-366.	0.9	97
13	Contributions of muscles to mediolateral ground reaction force over a range of walking speeds. Journal of Biomechanics, 2012, 45, 2438-2443.	0.9	88
14	What is a Moment Arm? Calculating Muscle Effectiveness in Biomechanical Models Using Generalized Coordinates. , 2013, 2013, .		60
15	Simulation of human movement: applications using OpenSim. Procedia IUTAM, 2011, 2, 186-198.	1.2	59
16	Muscle contributions to vertical and fore-aft accelerations are altered in subjects with crouch gait. Gait and Posture, 2013, 38, 86-91.	0.6	58
17	Minimal formulation of joint motion for biomechanisms. Nonlinear Dynamics, 2010, 62, 291-303.	2.7	57
18	OpenSense: An open-source toolbox for inertial-measurement-unit-based measurement of lower extremity kinematics over long durations. Journal of NeuroEngineering and Rehabilitation, 2022, 19, 22.	2.4	56

#	Article	IF	Citations
19	Muscle Contributions to Upper-Extremity Movement and Work From a Musculoskeletal Model of the Human Shoulder. Frontiers in Neurorobotics, 2019, 13, 90.	1.6	38
20	A rolling constraint reproduces ground reaction forces and moments in dynamic simulations of walking, running, and crouch gait. Journal of Biomechanics, 2013, 46, 1772-1776.	0.9	27
21	Rectus femoris transfer surgery affects balance recovery in children with cerebral palsy: A computer simulation study. Gait and Posture, 2016, 43, 24-30.	0.6	27
22	Muscle coordination retraining inspired by musculoskeletal simulations reduces knee contact force. Scientific Reports, 2022, 12, .	1.6	24
23	Biomechanics Aware Collaborative Robot System for Delivery of Safe Physical Therapy in Shoulder Rehabilitation. IEEE Robotics and Automation Letters, 2021, 6, 7177-7184.	3.3	17
24	A marker registration method to improve joint angles computed by constrained inverse kinematics. PLoS ONE, 2021, 16, e0252425.	1.1	11
25	Conclusion or Illusion: Quantifying Uncertainty in Inverse Analyses From Marker-Based Motion Capture due to Errors in Marker Registration and Model Scaling. Frontiers in Bioengineering and Biotechnology, 2022, 10, .	2.0	8
26	Multi-Joint Coordination of Vertical Arm Movement. Applied Bionics and Biomechanics, 2003, 1, 45-56.	0.5	5
27	Multi-joint coordination of vertical arm movement. Applied Bionics and Biomechanics, 2003, 1, 45-56.	0.5	3
28	A nonlinear tracking method of computing net joint torques for human movement. , 2004, 2004, 4633-6.		3
29	Crouch Gait Represents a Simplified Muscular Support Strategy During Single-Limb Stance Compared to Unimpaired Gait. , 2009, , .		0