Zachary F Lerner

List of Publications by Year
in descending order

44 papers	1,304 citations	394421 19 h-index	377865 34 g-index
45 all docs	45 docs citations	45 times ranked	1090 citing authors

#	Article	IF	Citations
1	How tibiofemoral alignment and contact locations affect predictions of medial and lateral tibiofemoral contact forces. Journal of Biomechanics, 2015, 48, 644-650.	2.1	166
2	A lower-extremity exoskeleton improves knee extension in children with crouch gait from cerebral palsy. Science Translational Medicine, 2017, 9, .	12.4	110
3	A Robotic Exoskeleton for Treatment of Crouch Gait in Children With Cerebral Palsy: Design and Initial Application. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 650-659.	4.9	89
4	An Untethered Ankle Exoskeleton Improves Walking Economy in a Pilot Study of Individuals With Cerebral Palsy. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 1985-1993.	4.9	69
5	Effects of obesity on lower extremity muscle function during walking at two speeds. Gait and Posture, 2014, 39, 978-984.	1.4	63
6	Ankle Exoskeleton Assistance Can Improve Over-Ground Walking Economy in Individuals With Cerebral Palsy. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 461-467.	4.9	61
7	Proportional Joint-Moment Control for Instantaneously Adaptive Ankle Exoskeleton Assistance. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 751-759.	4.9	58
8	A Battery-Powered Ankle Exoskeleton Improves Gait Mechanics in a Feasibility Study of Individuals with Cerebral Palsy. Annals of Biomedical Engineering, 2019, 47, 1345-1356.	2.5	54
9	A comparison of slow, uphill and fast, level walking on lower extremity biomechanics and tibiofemoral joint loading in obese and nonobese adults. Journal of Orthopaedic Research, 2014, 32, 324-330.	2.3	51
10	Effectiveness of surgical and non-surgical management of crouch gait in cerebral palsy: A systematic review. Gait and Posture, 2017, 54, 93-105.	1.4	51
11	The Effects of Exoskeleton Assisted Knee Extension on Lower-Extremity Gait Kinematics, Kinetics, and Muscle Activity in Children with Cerebral Palsy. Scientific Reports, 2017, 7, 13512.	3.3	50
12	The Effects of Walking Speed on Tibiofemoral Loading Estimated Via Musculoskeletal Modeling. Journal of Applied Biomechanics, 2014, 30, 197-205.	0.8	45
13	Effects of an Obesity-Specific Marker Set on Estimated Muscle and Joint Forces in Walking. Medicine and Science in Sports and Exercise, 2014, 46, 1261-1267.	0.4	38
14	Adaptive Ankle Resistance from a Wearable Robotic Device to Improve Muscle Recruitment in Cerebral Palsy. Annals of Biomedical Engineering, 2020, 48, 1309-1321.	2.5	31
15	Pediatric obesity and walking duration increase medial tibiofemoral compartment contact forces. Journal of Orthopaedic Research, 2016, 34, 97-105.	2.3	29
16	Usability and performance validation of an ultra-lightweight and versatile untethered robotic ankle exoskeleton. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 163.	4.6	28
17	Compressive and shear hip joint contact forces are affected by pediatric obesity during walking. Journal of Biomechanics, 2016, 49, 1547-1553.	2.1	26
18	Adaptive Ankle Exoskeleton Control: Validation Across Diverse Walking Conditions. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 801-812.	3.2	25

#	Article	IF	Citations
19	The effects of pediatric obesity on patellofemoral joint contact force during walking. Gait and Posture, 2019, 73, 209-214.	1.4	21
20	Feasibility of Augmenting Ankle Exoskeleton Walking Performance With Step Length Biofeedback in Individuals With Cerebral Palsy. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 442-449.	4.9	20
21	Modulating tibiofemoral contact force in the sheep hind limb via treadmill walking: Predictions from an opensim musculoskeletal model. Journal of Orthopaedic Research, 2015, 33, 1128-1133.	2.3	18
22	Wearable Adaptive Resistance Training Improves Ankle Strength, Walking Efficiency and Mobility in Cerebral Palsy: A Pilot Clinical Trial. IEEE Open Journal of Engineering in Medicine and Biology, 2020, 1, 282-289.	2.3	18
23	Pilot evaluation of changes in motor control after wearable robotic resistance training in children with cerebral palsy. Journal of Biomechanics, 2021, 126, 110601.	2.1	18
24	A robotic exoskeleton to treat crouch gait from cerebral palsy: Initial kinematic and neuromuscular evaluation. , 2016, 2016, 2214-2217.		17
25	Adaptive ankle exoskeleton gait training demonstrates acute neuromuscular and spatiotemporal benefits for individuals with cerebral palsy: A pilot study. Gait and Posture, 2022, 95, 256-263.	1.4	17
26	Does adiposity affect muscle function during walking in children?. Journal of Biomechanics, 2014, 47, 2975-2982.	2.1	14
27	Estimating the Mechanical Behavior of the Knee Joint During Crouch Gait: Implications for Real-Time Motor Control of Robotic Knee Orthoses. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 621-629.	4.9	13
28	Relationship between assistive torque and knee biomechanics during exoskeleton walking in individuals with crouch gait. , 2017, 2017, 491-497.		12
29	Improving the Energy Cost of Incline Walking and Stair Ascent With Ankle Exoskeleton Assistance in Cerebral Palsy. IEEE Transactions on Biomedical Engineering, 2022, 69, 2143-2152.	4.2	12
30	Is robotic gait training effective for individuals with cerebral palsy? A systematic review and meta-analysis of randomized controlled trials. Clinical Rehabilitation, 2022, 36, 873-882.	2.2	10
31	Computational modeling of neuromuscular response to swing-phase robotic knee extension assistance in cerebral palsy. Journal of Biomechanics, 2019, 87, 142-149.	2.1	9
32	Relationship between ankle function and walking ability for children and young adults with cerebral palsy: A systematic review of deficits and targeted interventions. Gait and Posture, 2022, 91, 165-178.	1.4	9
33	Does Ankle Exoskeleton Assistance Impair Stability During Walking in Individuals with Cerebral Palsy?. Annals of Biomedical Engineering, 2021, 49, 2522-2532.	2.5	8
34	Computational characterization of fracture healing under reduced gravity loading conditions. Journal of Orthopaedic Research, 2016, 34, 1206-1215.	2.3	7
35	Repeatability of EMG activity during exoskeleton assisted walking in children with cerebral palsy: implications for real time adaptable control. , 2018, 2018, 2801-2804.		7
36	Bilateral vs. Paretic-Limb-Only Ankle Exoskeleton Assistance for Improving Hemiparetic Gait: A Case Series. IEEE Robotics and Automation Letters, 2022, 7, 1246-1253.	5.1	6

#	Article	IF	Citations
37	Ankle Exoskeleton Assistance Increases Six-Minute Walk Test Performance in Cerebral Palsy. IEEE Open Journal of Engineering in Medicine and Biology, 2021, 2, 320-323.	2.3	5
38	Feasibility evaluation of a dual-mode ankle exoskeleton to assist and restore community ambulation in older adults. Wearable Technologies, 2022, 3, .	3.1	5
39	Design and Electromechanical Performance Evaluation of a Powered Parallel-Elastic Ankle Exoskeleton. IEEE Robotics and Automation Letters, 2022, 7, 8092-8099.	5.1	4
40	A Low-Profile Hip Exoskeleton for Pathological Gait Assistance: Design and Pilot Testing. , 2022, , .		4
41	Effects of Lightweight Wearable Ankle Exoskeleton in an Individual With Parkinson Disease. Topics in Geriatric Rehabilitation, 2020, 36, 146-151.	0.4	3
42	Closing the Loop on Exoskeleton Motor Controllers: Benefits of Regression-Based Open-Loop Control. IEEE Robotics and Automation Letters, 2020, 5, 6025-6032.	5.1	3
43	The Effect of Walking Duration on Gait Biomechanics in Children. Medicine and Science in Sports and Exercise, 2015, 47, 216.	0.4	0
44	Soleus H-reflex modulation in cerebral palsy and its relationship with neural control complexity: a pilot study. Experimental Brain Research, 0, , .	1.5	0