# Zachary F Lerner

List of Publications by Year
in descending order



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|---|---|---|---|
| 44 papers | 1,304 citations | 393982 19 h-index | 377514 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. | 0.9 | 166 |
| 2 | A lower-extremity exoskeleton improves knee extension in children with crouch gait from cerebral palsy. Science Translational Medicine, 2017, 9, . | 5.8 | 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. | 2.7 | 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. | 2.7 | 69 |
| 5 | Effects of obesity on lower extremity muscle function during walking at two speeds. Gait and Posture, 2014, 39, 978-984. | 0.6 | 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. | 2.7 | 61 |
| 7 | Proportional Joint-Moment Control for Instantaneously Adaptive Ankle Exoskeleton Assistance. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 751-759. | 2.7 | 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. | 1.3 | 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. | 1.2 | 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. | 0.6 | 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. | 1.6 | 50 |
| 12 | The Effects of Walking Speed on Tibiofemoral Loading Estimated Via Musculoskeletal Modeling. Journal of Applied Biomechanics, 2014, 30, 197-205. | 0.3 | 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. | 0.2 | 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. | 1.3 | 31 |
| 15 | Pediatric obesity and walking duration increase medial tibiofemoral compartment contact forces. Journal of Orthopaedic Research, 2016, 34, 97-105. | 1.2 | 29 |
| 16 | Usability and performance validation of an ultra-lightweight and versatile untethered robotic ankle exoskeleton. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 163. | 2.4 | 28 |
| 17 | Compressive and shear hip joint contact forces are affected by pediatric obesity during walking. Journal of Biomechanics, 2016, 49, 1547-1553. | 0.9 | 26 |
| 18 | Adaptive Ankle Exoskeleton Control: Validation Across Diverse Walking Conditions. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 801-812. | 2.1 | 25 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | The effects of pediatric obesity on patellofemoral joint contact force during walking. Gait and Posture, 2019, 73, 209-214. | 0.6 | 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. | 2.7 | 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. | 1.2 | 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. | 1.7 | 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. | 0.9 | 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. | 0.6 | 17 |
| 26 | Does adiposity affect muscle function during walking in children?. Journal of Biomechanics, 2014, 47, 2975-2982. | 0.9 | 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. | 2.7 | 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. | 2.5 | 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. | 1.0 | 10 |
| 31 | Computational modeling of neuromuscular response to swing-phase robotic knee extension assistance in cerebral palsy. Journal of Biomechanics, 2019, 87, 142-149. | 0.9 | 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. | 0.6 | 9 |
| 33 | Does Ankle Exoskeleton Assistance Impair Stability During Walking in Individuals with Cerebral Palsy?. Annals of Biomedical Engineering, 2021, 49, 2522-2532. | 1.3 | 8 |
| 34 | Computational characterization of fracture healing under reduced gravity loading conditions. Journal of Orthopaedic Research, 2016, 34, 1206-1215. | 1.2 | 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. | 3.3 | 6 |

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| 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. | 1.7 | 5 |
| 38 | Feasibility evaluation of a dual-mode ankle exoskeleton to assist and restore community ambulation in older adults. Wearable Technologies, 2022, 3, . | 1.6 | 5 |
| 39 | Design and Electromechanical Performance Evaluation of a Powered Parallel-Elastic Ankle Exoskeleton. IEEE Robotics and Automation Letters, 2022, 7, 8092-8099. | 3.3 | 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. | 0.2 | 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. | 3.3 | 3 |
| 43 | The Effect of Walking Duration on Gait Biomechanics in Children. Medicine and Science in Sports and Exercise, 2015, 47, 216. | 0.2 | 0 |
| 44 | Soleus H-reflex modulation in cerebral palsy and its relationship with neural control complexity: a pilot study. Experimental Brain Research, 0, , . | 0.7 | 0 |