Elliott J Rouse

List of Publications by Year
in descending order

49 papers	2,145 citations	471061 17 h-index	360668 35 g-index
49 all docs	49 docs citations	49 times ranked	1418 citing authors

#	Article	IF	Citations
1	Autonomous exoskeleton reduces metabolic cost of human walking during load carriage. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 80.	2.4	315
2	Clutchable series-elastic actuator: Implications for prosthetic knee design. International Journal of Robotics Research, 2014, 33, 1611-1625.	5.8	243
3	Estimation of Human Ankle Impedance During the Stance Phase of Walking. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 870-878.	2.7	223
4	Design and Validation of a Torque-Controllable Knee Exoskeleton for Sit-to-Stand Assistance. IEEE/ASME Transactions on Mechatronics, 2017, 22, 1695-1704.	3.7	125
5	Autonomous exoskeleton reduces metabolic cost of human walking. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 151.	2.4	111
6	Summary of Human Ankle Mechanical Impedance During Walking. IEEE Journal of Translational Engineering in Health and Medicine, 2016, 4, 1-7.	2.2	109
7	The Difference Between Stiffness and Quasi-Stiffness in the Context of Biomechanical Modeling. IEEE Transactions on Biomedical Engineering, 2013, 60, 562-568.	2.5	108
8	The VSPA Foot: A Quasi-Passive Ankle-Foot Prosthesis With Continuously Variable Stiffness. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 2375-2386.	2.7	105
9	Design and clinical implementation of an open-source bionic leg. Nature Biomedical Engineering, 2020, 4, 941-953.	11.6	91
10	Design and Characterization of an Open-Source Robotic Leg Prosthesis. , 2018, , .		58
11	Amputee perception of prosthetic ankle stiffness during locomotion. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 99.	2.4	46
12	Development of a Mechatronic Platform and Validation of Methods for Estimating Ankle Stiffness During the Stance Phase of Walking. Journal of Biomechanical Engineering, 2013, 135, 81009.	0.6	45
13	Evidence for a Time-Invariant Phase Variable in Human Ankle Control. PLoS ONE, 2014, 9, e89163.	1.1	45
14	Mechanical Impedance of the Ankle During the Terminal Stance Phase of Walking. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 135-143.	2.7	44
15	Autonomous exoskeleton reduces metabolic cost of walking. , 2014, 2014, 3065-8.		39
16	The role of user preference in the customized control of robotic exoskeletons. Science Robotics, 2022, 7, eabj3487.	9.9	37
17	Design of a quasi-passive ankle-foot prosthesis with biomimetic, variable stiffness. , 2017, , .		30
18	Estimation of human ankle impedance during walking using the perturberator robot. , 2012, , .		28

#	Article	IF	Citations
19	Empirical Characterization of a High-performance Exterior-rotor Type Brushless DC Motor and Drive. , 2019, , .		24
20	Phase-Variable Control of a Powered Knee-Ankle Prosthesis over Continuously Varying Speeds and Inclines. , 2021, 2021, 6182-6189.		23
21	Stiffness Perception During Active Ankle and Knee Movement. IEEE Transactions on Biomedical Engineering, 2017, 64, 2949-2956.	2.5	22
22	Can humans perceive the metabolic benefit provided by augmentative exoskeletons?. Journal of NeuroEngineering and Rehabilitation, 2022, 19, 26.	2.4	21
23	Understanding patient preference in prosthetic ankle stiffness. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 128.	2.4	20
24	Enhancing Voluntary Motion With Modular, Backdrivable, Powered Hip and Knee Orthoses. IEEE Robotics and Automation Letters, 2022, 7, 6155-6162.	3.3	19
25	Comparing preference of ankleâ€“foot stiffness in below-knee amputees and prosthetists. Scientific Reports, 2020, 10, 16067.	1.6	18
26	Design and Characterization of a Quasi-Passive Pneumatic Foot-Ankle Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 823-831.	2.7	17
27	Image Transformation and CNNs: A Strategy for Encoding Human Locomotor Intent for Autonomous Wearable Robots. IEEE Robotics and Automation Letters, 2020, 5, 5440-5447.	3.3	17
28	User preference of applied torque characteristics for bilateral powered ankle exoskeletons. , 2020, , .		17
29	Transferrable Expertise From Bionic Arms to Robotic Exoskeletons: Perspectives for Stroke and Duchenne Muscular Dystrophy. IEEE Transactions on Medical Robotics and Bionics, 2019, 1, 88-96.	2.1	15
30	Development of a Model Osseo-Magnetic Link for Intuitive Rotational Control of Upper-Limb Prostheses. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 213-220.	2.7	13
31	Mapping the relationships between joint stiffness, modeled muscle stiffness, and shear wave velocity. Journal of Applied Physiology, 2020, 129, 483-491.	1.2	12
32	Validation of methods for determining ankle stiffness during walking using the Perturberator robot. , 2012, , .		11
33	Ankle Mechanical Impedance During the Stance Phase of Running. IEEE Transactions on Biomedical Engineering, 2020, 67, 1595-1603.	2.5	9
34	Neuromotor Regulation of Ankle Stiffness is Comparable to Regulation of Joint Position and Torque at Moderate Levels. Scientific Reports, 2020, 10, 10383.	1.6	9
35	Characterization and clinical implications of ankle impedance during walking in chronic stroke. Scientific Reports, 2021, 11, 16726.	1.6	9
36	Design and validation of a platform robot for determination of ankle impedance during ambulation. , 2011, 2011, 8179-82.		8

#	Article	IF	Citations
37	Accelerating the Estimation of Metabolic Cost Using Signal Derivatives: Implications for Optimization and Evaluation of Wearable Robots. IEEE Robotics and Automation Magazine, 2020, 27, 32-42.	2.2	7
38	Design and characterization of a biologically inspired quasi-passive prosthetic ankle-foot. , 2014, 2014, 1611-7.		6
39	The Difference Threshold of Ankle-Foot Prosthesis Stiffness for Persons with Transtibial Amputation. , 2018, , .		6
40	How Does Ankle Mechanical Stiffness Change as a Function of Muscle Activation in Standing and During the Late Stance of Walking?. IEEE Transactions on Biomedical Engineering, 2022, 69, 1186-1193.	2.5	6
41	Damping Perception During Active Ankle and Knee Movement. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 198-206.	2.7	5
42	Patient Preference in the Selection of Prosthetic Joint Stiffness. , 2020, , .		5
43	Biological Joint Loading and Exoskeleton Design. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 847-851.	2.1	5
44	Ankle Mechanical Impedance During Waling in Chronic Stroke: Preliminary Results. , 2019, 2019, 246-251.		4
45	A Data Driven Approach for Predicting Preferred Ankle Stiffness of a Quasi-Passive Prosthesis. IEEE Robotics and Automation Letters, 2022, 7, 3467-3474.	3.3	4
46	Characterization of Open-loop Impedance Control and Efficiency in Wearable Robots. IEEE Robotics and Automation Letters, 2022, 7, 4313-4320.	3.3	4
47	Analysis of the Bayesian Gait-State Estimation Problem for Lower-Limb Wearable Robot Sensor Configurations. IEEE Robotics and Automation Letters, 2022, 7, 7463-7470.	3.3	3
48	In vivo relationship between joint stiffness, joint-based estimates of muscle stiffness, and shear-wave velocity. , 2018, 2018, 1468-1471.		2
49	A passive mechanism for decoupling energy storage and return in ankleâ€“foot prostheses: A case study in recycling collision energy. Wearable Technologies, 2021, 2, .	1.6	2