Sunil Agrawal

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4314802/publications.pdf

Version: 2024-02-01

208 papers	4,359 citations	159585 30 h-index	161849 54 g-index
210 all docs	210 docs citations	210 times ranked	2966 citing authors

#	Article	IF	Citations
1	Robot Assisted Gait Training With Active Leg Exoskeleton (ALEX). IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 2-8.	4.9	629
2	Knee Joint Misalignment in Exoskeletons for the Lower Extremities: Effects on User's Gait. IEEE Transactions on Robotics, 2015, 31, 978-987.	10.3	134
3	Assessment of Motion of a Swing Leg and Gait Rehabilitation With a Gravity Balancing Exoskeleton. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2007, 15, 410-420.	4.9	132
4	Novel Gait Adaptation and Neuromotor Training Results Using an Active Leg Exoskeleton. IEEE/ASME Transactions on Mechatronics, 2010, 15, 216-225.	5.8	131
5	Assist-as-Needed Robot-Aided Gait Training Improves Walking Function in Individuals Following Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 956-963.	4.9	119
6	Human Movement Training With a Cable Driven ARm EXoskeleton (CAREX). IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 84-92.	4.9	118
7	Design and Fabrication of an Active Gravity Balanced Planar Mechanism Using Auxiliary Parallelograms. Journal of Mechanical Design, Transactions of the ASME, 2001, 123, 525-528.	2.9	78
8	Design of a cable-driven active leg exoskeleton (C-ALEX) and gait training experiments with human subjects. , 2015, , .		74
9	Theory and Design of an Orthotic Device for Full or Partial Gravity-Balancing of a Human Leg During Motion. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2004, 12, 157-165.	4.9	70
10	Differential-Flatness-Based Planning and Control of a Wheeled Mobile Manipulatorâ€"Theory and Experiment. IEEE/ASME Transactions on Mechatronics, 2011, 16, 768-773.	5.8	70
11	Robot-assisted modifications of gait in healthy individuals. Experimental Brain Research, 2010, 202, 809-824.	1.5	69
12	Dynamic Modeling and Simulation of Impact in Tether Net/Gripper systems. Multibody System Dynamics, 2004, 11, 235-250.	2.7	62
13	Polyhedral Single Degree-of-freedom Expanding Structures: Design and Prototypes. Journal of Mechanical Design, Transactions of the ASME, 2002, 124, 473-478.	2.9	56
14	Dynamics and control of a 4-dof wearable cable-driven upper arm exoskeleton. , 2009, , .		56
15	A Powered Leg Orthosis for Gait Rehabilitation of Motor-Impaired Patients. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	53
16	Robot assisted gait training with active leg exoskeleton (ALEX). , 2008, , .		52
17	Dynamic Modeling and Simulation of Satellite Tethered Systems. Journal of Vibration and Acoustics, Transactions of the ASME, 2005, 127, 144-156.	1.6	48
18	Robot-driven downward pelvic pull to improve crouch gait in children with cerebral palsy. Science Robotics, 2017, 2, .	17.6	45

#	Article	IF	Citations
19	Dynamic Modeling of Cable-Driven Parallel Manipulators With Distributed Mass Flexible Cables. Journal of Vibration and Acoustics, Transactions of the ASME, 2015, 137, .	1.6	43
20	Control of Longitudinal Flight Dynamics of a Flapping-Wing Micro Air Vehicle Using Time-Averaged Model and Differential Flatness Based Controller. Proceedings of the American Control Conference, 2007, , .	0.0	42
21	Differentially Flat Designs of Underactuated Open-Chain Planar Robots. IEEE Transactions on Robotics, 2008, 24, 1445-1451.	10.3	41
22	Inverse Kinematic Solution of Robot Manipulators Using Interval Analysis. Journal of Mechanical Design, Transactions of the ASME, 1998, 120, 147-150.	2.9	40
23	A cable driven upper arm exoskeleton for upper extremity rehabilitation. , 2011, , .		40
24	Estimating CoP Trajectories and Kinematic Gait Parameters in Walking and Running Using Instrumented Insoles. IEEE Robotics and Automation Letters, 2017, 2, 2159-2165.	5.1	40
25	Retraining of Human Gait - Are Lightweight Cable-Driven Leg Exoskeleton Designs Effective?. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 847-855.	4.9	40
26	Direction-Dependent Adaptation of Dynamic Gait Stability Following Waist-Pull Perturbations. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 1304-1313.	4.9	39
27	Design and Optimization of a Cable Driven Upper Arm Exoskeleton. Journal of Medical Devices, Transactions of the ASME, 2009, 3, .	0.7	38
28	Gait adaptations during overground walking and multidirectional oscillations of the visual field in a virtual reality headset. Gait and Posture, 2019, 67, 251-256.	1.4	38
29	Optimization of a Class of Nonlinear Dynamic Systems: New Efficient Method without Lagrange Multipliers. Journal of Optimization Theory and Applications, 1998, 97, 11-28.	1.5	37
30	Active Tethered Pelvic Assist Device (A-TPAD) to study force adaptation in human walking. , 2014, , .		37
31	Gait Adaptation Using a Cable-Driven Active Leg Exoskeleton (C-ALEX) With Post-Stroke Participants. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1984-1993.	4.9	37
32	Systematic Review of Back-Support Exoskeletons and Soft Robotic Suits. Frontiers in Bioengineering and Biotechnology, 2021, 9, 765257.	4.1	37
33	A Higher-Order Method for Dynamic Optimization of a Class of Linear Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1996, 118, 786-791.	1.6	35
34	A novel functional calibration method for real-time elbow joint angles estimation with magnetic-inertial sensors. Journal of Biomechanics, 2017, 54, 106-110.	2.1	35
35	Validation of a Footwear-Based Gait Analysis System With Action-Related Feedback. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 971-980.	4.9	33
36	Adaptation of Stability during Perturbed Walking in Parkinsonâ€™s Disease. Scientific Reports, 2017, 7, 17875.	3.3	33

#	Article	IF	Citations
37	Design of a Novel Two Degree-of-Freedom Ankle-Foot Orthosis. Journal of Mechanical Design, Transactions of the ASME, 2007, 129, 1137-1143.	2.9	31
38	ALEX III: A novel robotic platform with 12 DOFs for human gait training. , 2013, , .		31
39	Kinematic Design of a Dynamic Brace for Measurement of Head/Neck Motion. IEEE Robotics and Automation Letters, 2017, 2, 1428-1435.	5.1	30
40	Planning and control of under-actuated mobile manipulators using differential flatness. Autonomous Robots, 2010, 29, 35-52.	4.8	29
41	Effect on wrench-feasible workspace of cable-driven parallel robots by adding springs. Mechanism and Machine Theory, 2015, 86, 201-210.	4.5	29
42	A Dual-Stage Planar Cable Robot: Dynamic Modeling and Design of A Robust Controller with Positive Inputs. Journal of Mechanical Design, Transactions of the ASME, 2005, 127, 612-620.	2.9	28
43	Effects of exoskeleton weight and inertia on human walking. , 2017, , .		28
44	Walking With aBackpack Using Load Distribution and Dynamic Load Compensation Reduces Metabolic Cost and Adaptations to Loads. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 1419-1430.	4.9	28
45	An Active Neck Brace Controlled by a Joystick to Assist Head Motion. IEEE Robotics and Automation Letters, 2018, 3, 37-43.	5.1	26
46	Design of a Bio-Inspired Spherical Four-Bar Mechanism for Flapping-Wing Micro Air-Vehicle Applications. Journal of Mechanisms and Robotics, 2010, 2, .	2.2	25
47	Design and Optimal Control of an Underactuated Cable-Driven Microâ€“Macro Robot. IEEE Robotics and Automation Letters, 2017, 2, 896-903.	5.1	25
48	Dizziness Handicap Inventory Score Is Highly Correlated With Markers of Gait Disturbance. Otology and Neurotology, 2017, 38, 1490-1499.	1.3	25
49	A Bioinspired Soft Swallowing Gripper for Universal Adaptable Grasping. Soft Robotics, 2022, 9, 36-56.	8.0	25
50	Formation Planning and Control of UGVs with Trailers. Autonomous Robots, 2005, 19, 257-270.	4.8	24
51	Robotic Assist-As-Needed as an Alternative to Therapist-Assisted Gait Rehabilitation. International Journal of Physical Medicine & Rehabilitation, 2016, 4, .	0.5	24
52	Age-related differences in gait adaptations during overground walking with and without visual perturbations using a virtual reality headset. Scientific Reports, 2020, 10, 15376.	3.3	24
53	The robotic Trunk-Support-Trainer (TruST) to measure and increase postural workspace during sitting in people with spinal cord injury. Spinal Cord Series and Cases, 2020, 6, 1.	0.6	24
54	Modeling and Control of a 3-DOF pendulum-like manipulator. , 2011, , .		23

#	Article	IF	Citations
55	Optimal Design of Cable-Driven Manipulators Using Particle Swarm Optimization. Journal of Mechanisms and Robotics, 2016, 8, 0410031-410038.	2.2	23
56	Robotic Spine Exoskeleton (RoSE): Characterizing the 3-D Stiffness of the Human Torso in the Treatment of Spine Deformity. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 1026-1035.	4.9	23
57	Differential Flatness of a Class of n-DOF Planar Manipulators Driven by 1 or 2 Actuators. IEEE Transactions on Automatic Control, 2010, 55, 548-554.	5.7	22
58	SoleSound: Towards a novel portable system for audio-tactile underfoot feedback. , 2014, , .		22
59	Transition from mechanical arm to human arm with CAREX: A cable driven ARm EXoskeleton (CAREX) for neural rehabilitation. , 2012, , .		21
60	A Novel Approach to Apply Gait Synchronized External Forces on the Pelvis Using A-TPAD to Reduce Walking Effort. IEEE Robotics and Automation Letters, 2016, 1, 1118-1124.	5.1	20
61	Gait assessment with solesound instrumented footwear in spinal muscular atrophy. Muscle and Nerve, 2017, 56, 230-236.	2.2	20
62	Enhancing Seated Stability Using Trunk Support Trainer (TruST). IEEE Robotics and Automation Letters, 2017, 2, 1609-1616.	5.1	20
63	Gait Segmentation of Data Collected by Instrumented Shoes Using a Recurrent Neural Network Classifier. Physical Medicine and Rehabilitation Clinics of North America, 2019, 30, 355-366.	1.3	20
64	Design and simulation of a class of spatial reactionless manipulators. Robotica, 2005, 23, 75-81.	1.9	18
65	Variable Damping Force Tunnel for Gait Training Using ALEX III. IEEE Robotics and Automation Letters, 2017, 2, 1495-1501.	5.1	18
66	Exploration of Two Training Paradigms Using Forced Induced Weight Shifting With the Tethered Pelvic Assist Device to Reduce Asymmetry in Individuals After Stroke. American Journal of Physical Medicine and Rehabilitation, 2017, 96, S135-S140.	1.4	18
67	Design and implementation of a novel modal space active force control concept for spatial multi-DOF parallel robotic manipulators actuated by electrical actuators. ISA Transactions, 2018, 72, 273-286.	5.7	18
68	Promoting Functional and Independent Sitting in Children With Cerebral Palsy Using the Robotic Trunk Support Trainer. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 2995-3004.	4.9	18
69	Energy Regeneration From Electromagnetic Induction by Human Dynamics for Lower Extremity Robotic Prostheses. IEEE Transactions on Robotics, 2020, 36, 1442-1451.	10.3	18
70	Path Planning of Free Floating Prismatic-Jointed Manipulators. Multibody System Dynamics, 1997, 1, 127-140.	2.7	17
71	On the Adaptation of Pelvic Motion by Applying 3-dimensional Guidance Forces Using TPAD. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 1558-1567.	4.9	17
72	Stand Trainer With Applied Forces at the Pelvis and Trunk: Response to Perturbations and Assist-As-Needed Support. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 1855-1864.	4.9	17

#	Article	IF	Citations
73	Biomedical Assist Devices and New Biomimetic Machinesâ€"A Short Perspective. Journal of Mechanical Design, Transactions of the ASME, 2005, 127, 799-801.	2.9	16
74	Training Toddlers Seated on Mobile Robots to Steer Using Force-Feedback Joystick. IEEE Transactions on Haptics, 2012, 5, 376-383.	2.7	16
75	Walk-Assist Robot: A Novel Approach to Gain Selection of a Braking Controller Using Differential Flatness. IEEE Transactions on Control Systems Technology, 2013, 21, 2299-2305.	5.2	16
76	Locomotor Adaptation to an Asymmetric Force on the Human Pelvis Directed Along the Right Leg. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 872-881.	4.9	16
77	Design of a Novel Mobility Interface for Infants on a Mobile Robot by Kicking. Journal of Medical Devices, Transactions of the ASME, 2010, 4, .	0.7	15
78	An Advanced Patient Lift and Transfer Device for the Home. Journal of Medical Devices, Transactions of the ASME, 2010, 4, .	0.7	15
79	Exoskeletons for Gait Assistance and Training of the Motor-Impaired. , 2007, , .		14
80	Development of insect thorax based flapping mechanism. , 2009, , .		14
81	A spring-loaded compliant neck brace with adjustable supports. Mechanism and Machine Theory, 2018, 125, 34-44.	4.5	14
82	Effects of a Person-Following Light-Touch Device During Overground Walking With Visual Perturbations in a Virtual Reality Environment. IEEE Robotics and Automation Letters, 2019, 4, 4139-4146.	5.1	14
83	Dynamic Modeling of Satellite Tether Systems Using Newtonâ€™s Laws and Hamiltonâ€™s Principle. Journal of Vibration and Acoustics, Transactions of the ASME, 2008, 130, .	1.6	13
84	Force Adaptation in Human Walking With Symmetrically Applied Downward Forces on the Pelvis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 969-978.	4.9	13
85	Emotion Rendering in Plantar Vibro-Tactile Simulations of Imagined Walking Styles. IEEE Transactions on Affective Computing, 2017, 8, 340-354.	8.3	13
86	Force tracking control of an electro-hydraulic control loading system on a flight simulator using inverse model control and a damping compensator. Transactions of the Institute of Measurement and Control, 2018, 40, 135-147.	1.7	13
87	Transductive Learning Models for Accurate Ambulatory Gait Analysis in Elderly Residents of Assisted Living Facilities. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 124-134.	4.9	13
88	Real-Time Estimation of Glenohumeral Joint Rotation Center With Cable-Driven Arm Exoskeleton (CAREX)â€"A Cable-Based Arm Exoskeleton. Journal of Mechanisms and Robotics, 2014, 6, 0145021-145025.	2.2	12
89	A passive swing-assistive planar external orthosis for gait training on treadmill. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2015, 37, 1-10.	1.6	12
90	Motion Guidance for a Passive Robot Walking Helper via User's Applied Hand Forces. IEEE Transactions on Human-Machine Systems, 2016, 46, 869-881.	3.5	12

#	Article	IF	Citations
91	A robotic neck brace to characterize headâ€neck motion and muscle electromyography in subjects with amyotrophic lateral sclerosis. Annals of Clinical and Translational Neurology, 2019, 6, 1671-1680.	3.7	12
92	Walking With Augmented Reality: A Preliminary Assessment of Visual Feedback With a Cable-Driven Active Leg Exoskeleton (C-ALEX). IEEE Robotics and Automation Letters, 2019, 4, 3948-3954.	5.1	12
93	Prediction of Gait Cycle Percentage Using Instrumented Shoes with Artificial Neural Networks. , 2020, , .		12
94	Muscle Synergies of Untrained Subjects during 6 min Maximal Rowing on Slides and Fixed Ergometer. Journal of Sports Science and Medicine, 2014, 13, 793-800.	1.6	12
95	Differentially Flat Design of Bipeds Ensuring Limit-Cycles. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	11
96	A novel passive pelvic device for assistance during locomotion. , 2010, , .		11
97	Smart Crutches: Towards Instrumented Crutches for Rehabilitation and Exoskeletons-Assisted Walking. , 2018, , .		11
98	Development of a Virtual Floor Maze Test - Effects of Distal Visual Cues and Correlations With Executive Function in Healthy Adults. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 2229-2236.	4.9	11
99	Using a Robotic Neck Brace for Movement Training of the Headâ€“Neck. IEEE Robotics and Automation Letters, 2019, 4, 846-853.	5.1	11
100	Design of a Wheelchair Robot for Active Postural Support. Journal of Mechanisms and Robotics, 2019, 11, .	2.2	11
101	Characterizing Torso Stiffness in Female Adolescents With and Without Scoliosis. IEEE Robotics and Automation Letters, 2020, 5, 1634-1641.	5.1	11
102	Globally Feedback Linearizable Time-Invariant Systems: Optimal Solution for Mayerâ€™s Problem. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2000, 122, 343-347.	1.6	10
103	Finite-Time Optimal Control of Polynomial Systems Using Successive Suboptimal Approximations. Journal of Optimization Theory and Applications, 2000, 105, 477-489.	1.5	10
104	Second Spine: Upper Body Assistive Device for Human Load Carriage. Journal of Mechanisms and Robotics, 2015, 7, .	2.2	10
105	Improving Trunk-Pelvis Stability Using Active Force Control at the Trunk and Passive Resistance at the Pelvis. IEEE Robotics and Automation Letters, 2018, 3, 2569-2576.	5.1	10
106	Effects of repeated waist-pull perturbations on gait stability in subjects with cerebellar ataxia. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 50.	4.6	10
107	Optimal Design of a Novel 3-DOF Orientational Parallel Mechanism for Pelvic Assistance on a Wheelchair: An Approach Based on Kinematic Geometry and Screw Theory. IEEE Robotics and Automation Letters, 2020, 5, 3315-3322.	5.1	10
108	Phase I randomized single-blinded controlled study investigating the potential benefit of aerobic exercise in degenerative cerebellar disease. Clinical Rehabilitation, 2020, 34, 584-594.	2.2	10

#	Article	IF	Citations
109	Passive knee exoskeletons in functional tasks: Biomechanical effects of a SpringExo coil-spring on squats. Wearable Technologies, 2021, 2, .	3.1	10
110	Feasibility study of robot enhanced mobility in children with cerebral palsy. , 2012, , .		9
111	Asymmetric adaptation in human walking using the Tethered Pelvic Assist Device (TPAD). , 2013, 2013, 6650385.		9
112	Effects of Virtual Reality Training With Trunk Support Trainer (TruST) on Postural Kinematics. IEEE Robotics and Automation Letters, 2017, 2, 2240-2247.	5.1	9
113	Comparing the Performance of a Cable-Driven Active Leg Exoskeleton (C-ALEX) Over-Ground and on a Treadmill. , 2018, , .		9
114	Passive Swing Assistive Exoskeletons for Motor-Incomplete Spinal Cord Injury Patients. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	8
115	An Energy Efficient Manipulator Design Approach: Application to a Leg in Swing Phase. Journal of Mechanical Design, Transactions of the ASME, 2007, 129, 512-519.	2.9	8
116	Wearable cable-driven upper arm exoskeleton - motion with transmitted joint force and moment minimization. , 2010, , .		8
117	A novel assist-as-needed control method to guide pelvic trajectory for gait rehabilitation. , 2015, , .		8
118	A Perturbation-based Gait Training with Multidirectional Waist-Pulls Generalizes to Split-Belt Treadmill Slips. , 2018, , .		8
119	Human Evaluation of Wheelchair Robot for Active Postural Support (WRAPS). Robotica, 2019, 37, 2132-2146.	1.9	8
120	Validation of a Forward Kinematics Based Controller for a mobile Tethered Pelvic Assist Device to Augment Pelvic Forces during Walking. , 2020, , .		8
121	Control Mechanisms in Standing while Simultaneously Receiving Perturbations and Active Assistance from the Robotic Upright Stand Trainer (RobUST). , 2020, , .		8
122	Biomechanical differences during ascent on regular stairs and on a stairmill. Journal of Biomechanics, 2020, 104, 109758.	2.1	8
123	Overground gait training using virtual reality aimed at gait symmetry. Human Movement Science, 2021, 76, 102770.	1.4	8
124	Optimal Trajectories of Open-Chain Mechanical Systems: An Explicit Optimality Equation with a Multiple Shooting Solution*. Mechanics Based Design of Structures and Machines, 1997, 25, 163-177.	0.6	7
125	Mass Center of Planar Mechanisms Using Auxiliary Parallelograms. Journal of Mechanical Design, Transactions of the ASME, 1999, 121, 166-168.	2.9	7
126	Kinematic design of an asymmetric in-phase flapping mechanism for MAVs. , 2012, , .		7

#	Article	IF	Citations
127	Differentially Flat Design of a Closed-Chain Planar Underactuated $hbox{2}$ -DOF System. IEEE Transactions on Robotics, 2013, 29, 277-282.	10.3	7
128	A human-robot interaction modeling approach for hand rehabilitation exoskeleton using biomechanical technique. , 2015, , .		7
129	Dual-Motor-Task of Catching and Throwing a Ball During Overground Walking in Virtual Reality. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1661-1667.	4.9	7
130	Hearing Loss Is Associated with Increased Variability in Double Support Period in the Elderly. Sensors, 2021, 21, 278.	3.8	7
131	Evaluating the Accuracy of Virtual Reality Trackers for Computing Spatiotemporal Gait Parameters. Sensors, 2021, 21, 3325.	3.8	7
132	Optimal time lags from causal prediction model help stratify and forecast nervous system pathology. Scientific Reports, 2021, 11, 20904.	3.3	7
133	Differentially flat design of under-actuated planar robots: Experimental results. , 2008, , .		6
134	Differentially Flat Designs of Underactuated Mobile Manipulators. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2010, 132, .	1.6	6
135	Gait Recovery in Healthy Subjects: Perturbations to the Knee Motion with a Smart Knee Brace. Advanced Robotics, 2011, 25, 1857-1877.	1.8	6
136	Using the Motion of the Head-Neck as a Joystick for Orientation Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 236-243.	4.9	6
137	Wireless monitoring and artificial intelligence: A bright future in cardiothoracic surgery. Journal of Thoracic and Cardiovascular Surgery, 2020, 160, 809-812.	0.8	6
138	Human Activity Recognition Using Recurrent Neural Network Classifiers on Raw Signals from Insole Piezoresistors. , 2020, , .		6
139	Geometric Constraint-Based Reconfiguration and Self-Motions of a Four-CRU Parallel Mechanism. Journal of Mechanisms and Robotics, 2021, 13, .	2.2	6
140	Artificial intelligence application versus physical therapist for squat evaluation: a randomized controlled trial. Scientific Reports, 2021, 11, 18109.	3.3	6
141	Exploring New Potential Applications for Hand Exoskeletons: Power Grip to Assist Human Standing. Sensors, 2021, 21, 30.	3.8	6
142	Analytical Dynamics of Unrooted Multibody Systems with Symmetries. Journal of Mechanical Design, Transactions of the ASME, 1999, 121, 440-447.	2.9	5
143	Linear Time-Varying Dynamic Systems Optimization via Higher-Order Method: A Sub-Domain Approach. Journal of Vibration and Acoustics, Transactions of the ASME, 2000, 122, 31-35.	1.6	5
144	Dynamic simulation and experimental validation of an upper extremity powered orthosis. , 2010, , .		5

#	Article	IF	Citations
145	Reducing Dynamic Loads From a Backpack During Load Carriage Using an Upper Body Assistive Device. Journal of Mechanisms and Robotics, 2016, 8, .	2.2	5
146	Effects of Viscous Damping on Differential Flatness-Based Control for a Class of Under-Actuated Planar Manipulators. , 2018, 2, 67-72.		5
147	Simulating Hemiparetic Gait in Healthy Subjects Using TPAD With a Closed-Loop Controller. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 974-983.	4.9	5
148	Phase I <scp>Singleâ€Blinded</scp> Randomized Controlled Trial Comparing Balance and Aerobic Training in Degenerative Cerebellar Disease. PM and R, 2021, 13, 364-371.	1.6	5
149	Postural Control Strategies in Standing With Handrail Support and Active Assistance From Robotic Upright Stand Trainer (RobUST). IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 1424-1431.	4.9	5
150	Applying Force Perturbations Using a Wearable Robotic Neck Brace. , 2020, , .		5
151	On sufficient conditions to keep differential flatness under the addition of new inputs. International Journal of Control, 2010, 83, 829-836.	1.9	4
152	Differential flatness of a class of nâ€”DOF planar manipulators driven by an arbitrary number of actuators. , 2013, , .		4
153	Second Spine: A device to relieve stresses on the upper body during loaded walking. , 2014, , .		4
154	Robot-Enhanced Mobility Training of Children With Cerebral Palsy: Short-Term and Long-Term Pilot Studies. IEEE Systems Journal, 2016, 10, 1098-1106.	4.6	4
155	Performance evaluation of a new design of cable-suspended camera system. , 2017, , .		4
156	Inertial sensors-based torso motion mode recognition for an active postural support brace. Advanced Robotics, 2020, 34, 57-67.	1.8	4
157	Acute Effects of a Perturbation-Based Balance Training on Cognitive Performance in Healthy Older Adults: A Pilot Study. Frontiers in Sports and Active Living, 2021, 3, 688519.	1.8	4
158	Continuous Identification of Freezing of Gait in Parkinsonâ€™s Patients Using Artificial Neural Networks and Instrumented Shoes. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 554-562.	3.2	4
159	Changes in Gait Parameters Due to Visual and Head Oscillations in Football Players and Non-Athletes. IEEE Robotics and Automation Letters, 2022, 7, 7171-7176.	5.1	4
160	Optimal Trajectories of Open-Chain Robot Systems: A New Solution Procedure Without Lagrange Multipliers. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1998, 120, 134-136.	1.6	3
161	Linear Time-Varying Dynamic Systems Optimization via Higher-Order Method Using Shifted Chebyshevâ€™s Polynomials. Journal of Vibration and Acoustics, Transactions of the ASME, 1999, 121, 258-261.	1.6	3
162	Gravity Balancing of a Human Leg using an External Orthosis. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	3

#	Article	IF	Citations
163	Modeling and control of two-wheeled vehicles using active caster wheels. , 2009, , .		3
164	Walk-assist robot: A novel approach to gain selection of a braking controller using differential flatness. , 2010, , .		3
165	Control and path planning of a walk-assist robot using differential flatness. , 2010, , .		3
166	Configuration Robustness Analysis of the Optimal Design of Cable-Driven Manipulators. Journal of Mechanisms and Robotics, 2016, 8, .	2.2	3
167	Modal Decoupled Dynamics-Velocity Feed-Forward Motion Control of Multi-DOF Robotic Spine Brace. IEEE Access, 2018, 6, 65286-65297.	4.2	3
168	Identification of Freezing of Gait in Parkinsonâ€™s Patients Using Instrumented Shoes and Artificial Neural Networks. , 2020, , .		3
169	Bio-Inspired Gaze-Driven Robotic Neck Brace. , 2020, , .		3
170	Lower-Limb Strategy Assessment during a Virtual Reality based Dual-Motor-Task. , 2020, , .		3
171	A dynamic model for the optimization of rotatory feeding devices. Mechanism and Machine Theory, 2021, 166, 104479.	4.5	3
172	Feasibility and tolerance of a robotic postural training to improve standing in a person with ambulatory spinal cord injury. Spinal Cord Series and Cases, 2021, 7, 94.	0.6	3
173	Active Soft Brace for Scoliotic Spine: A Finite Element Study to Evaluate in-Brace Correction. Robotics, 2022, 11, 37.	3.5	3
174	Robotic upright stand trainer (RobUST) and postural control in individuals with spinal cord injury. Journal of Spinal Cord Medicine, 2023, 46, 889-899.	1.4	3
175	Design of differentially flat planar space robots and their planning and control. International Journal of Control, 2008, 81, 407-416.	1.9	2
176	Design of a passive transfemoral prosthesis using differential flatness theory. , 2013, , .		2
177	Guidance and obstacle avoidance of passive robot walking helper based on receding horizon control. , 2014, , .		2
178	Exploring laparoscopic surgery training with Cable-driven ARm EXoskeleton (CAREX-M). , 2015, , .		2
179	Robustness of a flatness based controller against parametric uncertainties for a class of under-actuated planar manipulators. , 2017, , .		2
180	Concept design of a novel robotic spinal brace for the treatment of scoliosis. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2018, 232, 1230-1244.	1.8	2

#	Article	IF	Citations
181	Stability During Stairmill Ascent With Upward and Downward Applied Forces on the Pelvis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 1504-1512.	4.9	2
182	Artificial Neural Networks to Solve Forward Kinematics of a Wearable Parallel Robot with Semi-rigid Links. , 2021, , .		2
183	Short-term Performance-based Error-augmentation versus Error-reduction Robotic Gait Training for Individuals with Chronic Stroke: A Pilot Study. Physical Medicine and Rehabilitation International, 2015, 2, .	0.1	2
184	The Effect of Transcutaneous Spinal Cord Stimulation on Standing Postural Control in Healthy Adults. IEEE Robotics and Automation Letters, 2022, 7, 8268-8275.	5.1	2
185	Reactive Postural Control During Sit-to-Stand Motion. IEEE Robotics and Automation Letters, 2022, 7, 7185-7192.	5.1	2
186	Throwing Strategy in a Dual-Motor-Task of Aiming at the Bullseye While Walking in Virtual Reality. IEEE Robotics and Automation Letters, 2022, 7, 9091-9098.	5.1	2
187	Control of longitudinal or torsional vibration in a drill pipe/BHA using infinite dimensional techniques. , 2011, , .		1
188	Detection, motion planning and control of human tracking mobile robots. , 2011, , .		1
189	Gravity Balancing of a Human Leg Using an External Orthosis. Journal of Medical Devices, Transactions of the ASME, 2011, 5, .	0.7	1
190	Robot-assisted gait training with complementary auditory feedback: Results on short-term motor adaptation. , 2012, , .		1
191	Case studies of a robot enhanced walker for training of children with cerebral palsy. , 2013, , .		1
192	PD CONTROL WITH DESIRED GRAVITY COMPENSATION FOR A NOVEL DYNAMIC BRACE. Journal of Mechanics in Medicine and Biology, 2018, 18, 1840005.	0.7	1
193	Special Issue on Wearable Robotics: Dynamics, Control and Applications. Robotica, 2019, 37, 2011-2013.	1.9	1
194	Cable-driven systems for robotic rehabilitation. , 2021, , 135-163.		1
195	A novel neck brace to characterize neck mobility impairments following neck dissection in head and neck cancer patients. Wearable Technologies, 2021, 2, .	3.1	1
196	Change in Muscle Synergies During Stairmill Ascent With External Forces on the Pelvis. IEEE Robotics and Automation Letters, 2022, 7, 7247-7254.	5.1	1
197	Direct and indirect optimization of linear time-invariant dynamic systems using transformations. Optimal Control Applications and Methods, 1998, 19, 393-410.	2.1	0
198	Optimization of Bilinear Systems Using a Higher-Order Variational Method. Journal of Optimization Theory and Applications, 2000, 105, 55-72.	1.5	0

#	Article	IF	Citations
199	Transformation of optimal control lagrange problems to Mayer problems with feedback linearized state equations. , 2001, , .		0
200	Differentially flat mobile manipulators mounted with an under-actuated vertical arm. , 2010, , .		0
201	An approach to posture control of free-falling twin bodies using differential flatness. , 2010, , .		0
202	Design of a differentially flat 3R planar under-actuated manipulator with a single input at the second joint. , 2011, , .		0
203	Parameter Design in Optimal Control Problems for Linear Dynamic Systems Using a Canonical Form. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2014, 136, .	1.6	0
204	Walking with a Weighted Pelvic Belt or with an Equivalent Pure Downward Force on the Pelvis: Are These Different?. , 2018, , .		0
205	Walking With a Weighted Pelvic Belt or With an Equivalent Pure Downward Force on the Pelvis: Are These Different?. IEEE Robotics and Automation Letters, 2019, 4, 309-314.	5.1	0
206	Introducing Wearable Technologies: An open access journal focused on the design, control and mechanics of wearable devices. Wearable Technologies, 2020, 1, .	3.1	0
207	RATS: A Robotic Arm Training System Designed for Rats. Journal of Mechanisms and Robotics, 2021, 13, .	2.2	0
208	Effects of Localized Leg Muscle Vibration Timed to Gait Cycle Percentage During Overground Walking. IEEE Robotics and Automation Letters, 2022, 7, 7156-7162.	5.1	0