

Michael Goldfarb

List of Publications by Year in descending order

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116
papers

5,197
citations

109321

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98798

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all docs

116
docs citations

116
times ranked

3175
citing authors

#	ARTICLE	IF	CITATIONS
1	Design and Assist-As-Needed Control of a Lightly Powered Prosthetic Knee. IEEE Transactions on Medical Robotics and Bionics, 2022, 4, 490-501.	3.2	9
2	On Using a Brushless Motor as a Passive Torque-Controllable Brake. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2022, 144, .	1.6	6
3	Effect of a Swing-Assist Knee Prosthesis on Stair Ambulation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 2046-2054.	4.9	11
4	A Semi-Powered Ankle Prosthesis and Unified Controller for Level and Sloped Walking. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 320-329.	4.9	22
5	On the Basis for Stumble Recovery Strategy Selection in Healthy Adults. Journal of Biomechanical Engineering, 2021, 143, .	1.3	11
6	Model Based Design of a Low Cost and Compliant Low Profile Prosthetic Foot. Journal of Biomechanical Engineering, 2021, 144, .	1.3	1
7	A decade retrospective of medical robotics research from 2010 to 2020. Science Robotics, 2021, 6, eabi8017.	17.6	158
8	Design of a Semipowered Stance-Control Swing-Assist Transfemoral Prosthesis. IEEE/ASME Transactions on Mechatronics, 2020, 25, 175-184.	5.8	41
9	Feasibility Study of a Fall Prevention Cold Gas Thruster. , 2020, , .		5
10	A Preliminary Study on the Feasibility of Using a Knee Exoskeleton to Reduce Crouch Gait in an Adult with Cerebral Palsy. , 2020, , .		1
11	Swing-Assist for Enhancing Stair Ambulation in a Primarily-Passive Knee Prosthesis. , 2020, , .		6
12	Preliminary Assessment of a Hand and Arm Exoskeleton for Enabling Bimanual Tasks for Individuals With Hemiparesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 2214-2223.	4.9	14
13	A Single-Joint Implementation of Flow Control: Knee Joint Walking Assistance for Individuals With Mobility Impairment. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 934-942.	4.9	15
14	Design, Control, and Preliminary Assessment of a Multifunctional Semipowered Ankle Prosthesis. IEEE/ASME Transactions on Mechatronics, 2019, 24, 1532-1540.	5.8	22
15	A novel system for introducing precisely-controlled, unanticipated gait perturbations for the study of stumble recovery. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 69.	4.6	34
16	A Velocity-Field-Based Controller for Assisting Leg Movement During Walking With a Bilateral Hip and Knee Lower Limb Exoskeleton. IEEE Transactions on Robotics, 2019, 35, 307-316.	10.3	44
17	A Stair Ascent and Descent Controller for a Powered Ankle Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 993-1002.	4.9	49
18	Synergistic Elbow Control for a Myoelectric Transhumeral Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 468-476.	4.9	17

#	ARTICLE	IF	CITATIONS
19	A Controller for Guiding Leg Movement During Overground Walking With a Lower Limb Exoskeleton. IEEE Transactions on Robotics, 2018, 34, 183-193.	10.3	45
20	A Unified Controller for Walking on Even and Uneven Terrain With a Powered Ankle Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 788-797.	4.9	37
21	IMU-Based Wrist Rotation Control of a Transradial Myoelectric Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 419-427.	4.9	40
22	A Phase Variable Approach for IMU-Based Locomotion Activity Recognition. IEEE Transactions on Biomedical Engineering, 2018, 65, 1330-1338.	4.2	59
23	Design and Preliminary Assessment of Lightweight Swing-Assist Knee Prosthesis. , 2018, 2018, 3198-3201.		10
24	A Velocity-Based Flow Field Control Approach for Reshaping Movement of Stroke-Impaired Individuals with a Lower-Limb Exoskeleton. , 2018, 2018, 2797-2800.		4
25	On the design of power gear trains: Insight regarding number of stages and their respective ratios. PLoS ONE, 2018, 13, e0198048.	2.5	8
26	Variable Geometry Stair Ascent and Descent Controller for a Powered Lower Limb Exoskeleton. Journal of Medical Devices, Transactions of the ASME, 2018, 12, .	0.7	8
27	Impact of Powered Knee-Ankle Prosthesis on Low Back Muscle Mechanics in Transfemoral Amputees: A Case Series. Frontiers in Neuroscience, 2018, 12, 134.	2.8	30
28	Supplemental Stimulation Improves Swing Phase Kinematics During Exoskeleton Assisted Gait of SCI Subjects With Severe Muscle Spasticity. Frontiers in Neuroscience, 2018, 12, 374.	2.8	26
29	Control and Evaluation of a Powered Transfemoral Prosthesis for Stair Ascent. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 917-924.	4.9	48
30	Optimal Transmission Ratio Selection for Electric Motor Driven Actuators With Known Output Torque and Motion Trajectories. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	1.6	14
31	Design of a simplified compliant anthropomorphic robot hand. , 2017, , .		11
32	Design and preliminary assessment of Vanderbilt hand exoskeleton. , 2017, 2017, 1537-1542.		26
33	Design of a power-asymmetric actuator for a transtibial prosthesis. , 2017, 2017, 1531-1536.		5
34	Design of a Myoelectric Transhumeral Prosthesis. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1868-1879.	5.8	34
35	Design and performance characterization of a hand orthosis prototype to aid activities of daily living in a post-stroke population. , 2015, 2015, 3877-80.		19
36	Metabolics of stair ascent with a powered transfemoral prosthesis. , 2015, 2015, 5307-10.		12

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37	A Multigrasp Hand Prosthesis for Providing Precision and Conformal Grasps. IEEE/ASME Transactions on Mechatronics, 2015, 20, 1697-1704.	5.8	67
38	An Assistive Control Approach for a Lower-Limb Exoskeleton to Facilitate Recovery of Walking Following Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 441-449.	4.9	128
39	Impedance & Admittance-Based Coordination Control Strategies for Robotic Lower Limb Prostheses. Mechanical Engineering, 2014, 136, S12-S17.	0.1	17
40	A Robotic Leg Prosthesis: Design, Control, and Implementation. IEEE Robotics and Automation Magazine, 2014, 21, 70-81.	2.0	202
41	A Pneumatically Actuated Quadrupedal Walking Robot. IEEE/ASME Transactions on Mechatronics, 2014, 19, 339-347.	5.8	18
42	A Preliminary Assessment of Legged Mobility Provided by a Lower Limb Exoskeleton for Persons With Paraplegia. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 482-490.	4.9	168
43	Realizing the Promise of Robotic Leg Prostheses. Science Translational Medicine, 2013, 5, 210ps15.	12.4	94
44	Preliminary evaluation of a walking controller for a powered ankle prosthesis. , 2013, , .		32
45	Control of Stair Ascent and Descent With a Powered Transfemoral Prosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 466-473.	4.9	163
46	Functional assessment of a Multigrasp Myoelectric prosthesis: An amputee case study. , 2013, , .		4
47	Evaluation of a coordinated control system for a pair of powered transfemoral prostheses. , 2013, , .		13
48	A Method for the Control of Multigrasp Myoelectric Prosthetic Hands. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 58-67.	4.9	115
49	Design and control of a pneumatic quadrupedal walking robot. , 2011, , .		0
50	Design of a Multigrasp Transradial Prosthesis. Journal of Medical Devices, Transactions of the ASME, 2011, 5, .	0.7	30
51	Design of a Multidisc Electromechanical Brake. IEEE/ASME Transactions on Mechatronics, 2011, 16, 985-993.	5.8	17
52	Upslope Walking With a Powered Knee and Ankle Prosthesis: Initial Results With an Amputee Subject. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 71-78.	4.9	232
53	Multiclass Real-Time Intent Recognition of a Powered Lower Limb Prosthesis. IEEE Transactions on Biomedical Engineering, 2010, 57, 542-551.	4.2	354
54	Enhanced Performance and Stability in Pneumatic Servosystems With Supplemental Mechanical Damping. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2010, 132, .	1.6	9

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55	A controller for dynamic walking in bipedal robots. , 2009, , .		4
56	A Control Approach for Actuated Dynamic Walking in Biped Robots. IEEE Transactions on Robotics, 2009, 25, 1292-1303.	10.3	108
57	Actuated dynamic walking in biped robots: Control approach, robot design and experimental validation. , 2009, , .		4
58	Design of a multifunctional anthropomorphic prosthetic hand with extrinsic actuation. , 2009, , .		23
59	Preliminary Evaluations of a Self-Contained Anthropomorphic Transfemoral Prosthesis. IEEE/ASME Transactions on Mechatronics, 2009, 14, 667-676.	5.8	255
60	Design of a Multifunctional Anthropomorphic Prosthetic Hand With Extrinsic Actuation. IEEE/ASME Transactions on Mechatronics, 2009, 14, 699-706.	5.8	188
61	Guest EditorialIntroduction to the Focused Section on Anthropomorphism in Mechatronic Systems. IEEE/ASME Transactions on Mechatronics, 2009, 14, 641-646.	5.8	0
62	A Gas-Actuated Anthropomorphic Prosthesis for Transhumeral Amputees. , 2008, 24, 159-169.		61
63	Design and control of a biomimetic hexapedal walker. , 2008, , .		2
64	Progress Towards the Development of a Highly Functional Anthropomorphic Transhumeral Prosthesis. , 2007, , .		1
65	Energy Saving in Pneumatic Servo Control Utilizing Interchamber Cross-Flow. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2007, 129, 303-310.	1.6	32
66	Simultaneous Force and Stiffness Control of a Pneumatic Actuator. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2007, 129, 425-434.	1.6	60
67	Design and Control of a Powered Knee and Ankle Prosthesis. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	51
68	A Biologically Inspired Approach to the Coordination of Hexapedal Gait. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	5
69	Decomposition-Based Control for a Powered Knee and Ankle Transfemoral Prosthesis. , 2007, , .		15
70	Real-time Intent Recognition for a Powered Knee and Ankle Transfemoral Prosthesis. , 2007, , .		22
71	Design and energetic characterization of a proportional-injector monopropellant-powered actuator. IEEE/ASME Transactions on Mechatronics, 2006, 11, 196-204.	5.8	40
72	Design, control, and energetic characterization of a solenoid-injected monopropellant-powered actuator. IEEE/ASME Transactions on Mechatronics, 2006, 11, 477-487.	5.8	25

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73	Nonlinear Model-Based Control of Pulse Width Modulated Pneumatic Servo Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 663-669.	1.6	71
74	A Unified Force Controller for a Proportional-Injector Direct-Injection Monopropellant-Powered Actuator. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 159-164.	1.6	17
75	Dynamic Constraint-Based Energy-Saving Control of Pneumatic Servo Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 655-662.	1.6	34
76	Predictive Control for Time-Delayed Switching Control Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 999-1004.	1.6	4
77	On the enhanced passivity of pneumatically actuated impedance-type haptic interfaces. , 2006, 22, 470-480.		21
78	Multivariable Loop-Shaping in Bilateral Telemanipulation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 482-488.	1.6	6
79	An implementation of loop-shaping compensation for multidegree-of-freedom macro-microscaled telemanipulation. IEEE Transactions on Control Systems Technology, 2005, 13, 459-464.	5.2	17
80	Loop Shaping for Transparency and Stability Robustness in Time-Delayed Bilateral Telemanipulation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 650-656.	1.6	10
81	The Effect of Virtual Surface Stiffness on the Haptic Perception of Detail. IEEE/ASME Transactions on Mechatronics, 2004, 9, 448-454.	5.8	29
82	Loop Shaping for Transparency and Stability Robustness in Bilateral Telemanipulation. IEEE Transactions on Automation Science and Engineering, 2004, 20, 620-624.	2.3	45
83	Nonlinear averaging applied to the control of pulse width modulated (PWM) pneumatic systems. , 2004, , .		11
84	Sliding mode control of a direct-injection monopropellant-powered actuator. , 2004, , .		1
85	Control Design for Relative Stability in a PWM-Controlled Pneumatic System. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2003, 125, 504-508.	1.6	31
86	Design and energetic characterization of a liquid-propellant-powered actuator for self-powered robots. IEEE/ASME Transactions on Mechatronics, 2003, 8, 254-262.	5.8	103
87	Preliminary evaluation of a controlled-brake orthosis for FES-aided gait. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2003, 11, 241-248.	4.9	84
88	Sliding mode approach to PWM-controlled pneumatic systems. , 2002, , .		35
89	The effect of force saturation on the haptic perception of detail. IEEE/ASME Transactions on Mechatronics, 2002, 7, 280-288.	5.8	42
90	Corner-Filletted Flexure Hinges. Journal of Mechanical Design, Transactions of the ASME, 2001, 123, 346-352.	2.9	287

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91	Transparency and Stability Robustness in Two-Channel Bilateral Telemanipulation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2001, 123, 400-407.	1.6	68
92	A compliant-mechanism-based three degree-of-freedom manipulator for small-scale manipulation. Robotica, 2000, 18, 95-104.	1.9	37
93	A Well-Behaved Revolute Flexure Joint for Compliant Mechanism Design. Journal of Mechanical Design, Transactions of the ASME, 1999, 121, 424-429.	2.9	72
94	On the Efficiency of Electric Power Generation With Piezoelectric Ceramic. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1999, 121, 566-571.	1.6	133
95	Design of a PZT-actuated proportional drum brake. IEEE/ASME Transactions on Mechatronics, 1999, 4, 409-416.	5.8	16
96	Similarity and Invariance in Scaled Bilateral Telemanipulation. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1999, 121, 79-87.	1.6	10
97	A flexure-based gripper for small-scale manipulation. Robotica, 1999, 17, 181-187.	1.9	107
98	Eliminating non-smooth nonlinearities with compliant manipulator design. , 1998, , .		4
99	A Lumped Parameter Electromechanical Model for Describing the Nonlinear Behavior of Piezoelectric Actuators. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 1997, 119, 478-485.	1.6	198
100	Design of a controlled-brake orthosis for FES-aided gait. IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society, 1996, 4, 13-24.	1.4	80
101	The role of pressure sensors in the servo control of pneumatic actuators. , 0, , .		3
102	Behavioral implications of piezoelectric stack actuators for control of micromanipulation. , 0, , .		25
103	Design of a minimum surface-effect three degree-of-freedom micromanipulator. , 0, , .		6
104	Design of a minimum surface-effect tendon-based microactuator for micromanipulation. , 0, , .		1
105	Dimensional analysis and selective distortion in scaled bilateral telemanipulation. , 0, , .		33
106	Position control of a compliant mechanism based micromanipulator. , 0, , .		15
107	Analysis and design approach to inchworm robotic insects. , 0, , .		2
108	A method for simultaneously increasing transparency and stability robustness in bilateral telemanipulation. , 0, , .		14

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109	Force saturation, system bandwidth, information transfer, and surface quality in haptic interfaces. , 0, , .		11
110	Implementation of loop-shaping compensators to increase the transparency bandwidth of a scaled telemanipulation system. , 0, , .		12
111	Monopropellant powered actuators for use in autonomous human-scaled robotics. , 0, , .		10
112	Energy saving control for pneumatic servo systems. , 0, , .		10
113	Development of a hot gas actuator for self-powered robots. , 0, , .		3
114	Design and Energetic Characterization of a Solenoid Injected Liquid Monopropellant Powered Actuator for Self-Powered Robots. , 0, , .		7
115	Independent Stiffness and Force Control of Pneumatic Actuators for Contact Stability during Robot Manipulation. , 0, , .		8
116	Design and Characterization of a Five-Chamber Constant-Volume Hydraulic Actuator. International Journal of Fluid Power, 0, , .	0.7	3