C David Remy

List of Publications by Year
in descending order

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75 papers	2,037 citations	361388 20 h-index	361001 35 g-index
77 all docs	77 docs citations	77 times ranked	1694 citing authors

#	Article	IF	Citations
1	The role of user preference in the customized control of robotic exoskeletons. Science Robotics, 2022, 7, eabj3487.	17.6	37
2	Connecting Gaits in Energetically Conservative Legged Systems. IEEE Robotics and Automation Letters, 2022, 7, 8407-8414.	5.1	4
3	Comparison and experimental validation of predictive models for soft, fiber-reinforced actuators. International Journal of Robotics Research, 2021, 40, 119-135.	8.5	14
4	Data-Driven Control of Soft Robots Using Koopman Operator Theory. IEEE Transactions on Robotics, 2021, 37, 948-961.	10.3	90
5	Koopman-Based Control of a Soft Continuum Manipulator Under Variable Loading Conditions. IEEE Robotics and Automation Letters, 2021, 6, 6852-6859.	5.1	34
6	Motor Modules are Impacted by the Number of Reaching Directions Included in the Analysis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 2025-2034.	4.9	5
7	User preference of applied torque characteristics for bilateral powered ankle exoskeletons. , 2020, , .		17
8	Modeling and Experimental Evaluation of a Variable Hydraulic Transmission. IEEE/ASME Transactions on Mechatronics, 2020, 25, 750-761.	5.8	6
9	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.	2.0	7
10	An inductance-based sensing system for bellows-driven continuum joints in soft robots. Autonomous Robots, 2019, 43, 435-448.	4.8	33
11	A Portable Passive Rehabilitation Robot for Upper-Extremity Functional Resistance Training. IEEE Transactions on Biomedical Engineering, 2019, 66, 496-508.	4.2	42
12	Nonlinear System Identification of Soft Robot Dynamics Using Koopman Operator Theory. , 2019, , .		41
13	A Detailed Look at the SLIP Model Dynamics: Bifurcations, Chaotic Behavior, and Fractal Basins of Attraction. Journal of Computational and Nonlinear Dynamics, 2019, 14, .	1.2	7
14	Evaluating physiological signal salience for estimating metabolic energy cost from wearable sensors. Journal of Applied Physiology, 2019, 126, 717-729.	2.5	24
15	Walking With Confidence: Safety Regulation for Full Order Biped Models. IEEE Robotics and Automation Letters, 2019, 4, 4177-4184.	5.1	7
16	Effects of Foot Stiffness and Damping on Walking Robot Performance. , 2019, , .		3
17	Editorial: Assessing Bipedal Locomotion: Towards Replicable Benchmarks for Robotic and Robot-Assisted Locomotion. Frontiers in Neurorobotics, 2019, 13, 86.	2.8	3
18	Modeling and Design of â€œSmart Braidâ€•Inductance Sensors for Fiber-Reinforced Elastomeric Enclosures. IEEE Sensors Journal, 2018, 18, 2827-2835.	4.7	12

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19	A Semi-passive Planar Manipulandum for Upper-Extremity Rehabilitation. Annals of Biomedical Engineering, 2018, 46, 1047-1065.	2.5	12
20	Spine morphology and energetics: how principles from nature apply to robotics. Bioinspiration and Biomimetics, 2018, 13, 036002.	2.9	29
21	Toward Controllable Hydraulic Coupling of Joints in a Wearable Robot. IEEE Transactions on Robotics, 2018, 34, 748-763.	10.3	15
22	Energy-Optimal Hopping in Parallel and Series Elastic One-Dimensional Monopeds. Journal of Mechanisms and Robotics, 2018, 10, .	2.2	21
23	A Closed-Form Kinematic Model for Fiber-Reinforced Elastomeric Enclosures. Journal of Mechanisms and Robotics, 2018, 10, .	2.2	13
24	An Overview on Principles for Energy Efficient Robot Locomotion. Frontiers in Robotics and AI, 2018, 5, 129.	3.2	60
25	Force Generation by Parallel Combinations of Fiber-Reinforced Fluid-Driven Actuators. IEEE Robotics and Automation Letters, 2018, 3, 3999-4006.	5.1	17
26	Self-powered robots to reduce motor slacking during upper-extremity rehabilitation: a proof of concept study. Restorative Neurology and Neuroscience, 2018, 36, 693-708.	0.7	11
27	All common bipedal gaits emerge from a single passive model. Journal of the Royal Society Interface, 2018, 15, 20180455.	3.4	29
28	Choosing appropriate prosthetic ankle work to reduce the metabolic cost of individuals with transtibial amputation. Scientific Reports, 2018, 8, 15303.	3.3	20
29	On the Dynamic Similarity Between Bipeds and Quadrupeds: A Case Study on Bounding. IEEE Robotics and Automation Letters, 2018, 3, 3614-3621.	5.1	19
30	Biomechanics and energetics of walking in powered ankle exoskeletons using myoelectric control versus mechanically intrinsic control. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 42.	4.6	42
31	The Energetic Benefit of Robotic Gait Selectionâ€"A Case Study on the Robot RAM<italic>one</italic>. IEEE Robotics and Automation Letters, 2017, 2, 1124-1131.	5.1	19
32	Confidence in the curve: Establishing instantaneous cost mapping techniques using bilateral ankle exoskeletons. Journal of Applied Physiology, 2017, 122, 242-252.	2.5	15
33	Smart Braid Feedback for the Closed-Loop Control of Soft Robotic Systems. Soft Robotics, 2017, 4, 261-273.	8.0	29
34	Ambiguous collision outcomes and sliding with infinite friction in models of legged systems. International Journal of Robotics Research, 2017, 36, 1252-1267.	8.5	13
35	Comparing neural control and mechanically intrinsic control of powered ankle exoskeletons. , 2017, 2017, 294-299.		22
36	RAMone: A planar biped for studying the energetics of gait. , 2017, , .		6

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37	Using wearable physiological sensors to predict energy expenditure. , 2017, 2017, 340-345.		5
38	Using portable physiological sensors to estimate energy cost for â€˜body-in-the-loopâ€™ optimization of assistive robotic devices. , 2017, , .		4
39	Sensing the motion of bellows through changes in mutual inductance. , 2016, , .		11
40	Design and control of a recovery system for legged robots. , 2016, , .		5
41	Optimal configuration of series and parallel elasticity in a 2D Monoped. , 2016, , .		11
42	Passive Dynamics Explain Quadrupedal Walking, Trotting, and TÃ¶lting. Journal of Computational and Nonlinear Dynamics, 2016, 11, 0210081-2100812.	1.2	22
43	Selecting gaits for economical locomotion of legged robots. International Journal of Robotics Research, 2016, 35, 1140-1154.	8.5	68
44	Contraction Sensing With Smart Braid McKibben Muscles. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1201-1209.	5.8	79
45	Learning to walk with an adaptive gain proportional myoelectric controller for a robotic ankle exoskeleton. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 97.	4.6	124
46	A comparison of series and parallel elasticity in a monoped hopper. , 2015, , .		29
47	A novel variable transmission with digital hydraulics. , 2015, , .		3
48	The basin of attraction for running robots: Fractals, multistep trajectories, and the choice of control. , 2015, , .		10
49	"Body-In-The-Loop": Optimizing Device Parameters Using Measures of Instantaneous Energetic Cost. PLoS ONE, 2015, 10, e0135342.	2.5	97
50	Smart braid: Air muscles that measure force and displacement. , 2014, , .		25
51	A passive dynamic quadruped that moves in a large variety of gaits. , 2014, , .		17
52	Optimal gaits and motions for legged robots. , 2014, , .		33
53	Unified state estimation for a ballbot. , 2013, , .		20
54	Efficient and Versatile Locomotion With Highly Compliant Legs. IEEE/ASME Transactions on Mechatronics, 2013, 18, 449-458.	5.8	145

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55	Comparison of cost functions for electrically driven running robots. , 2012, , .		16
56	Quadrupedal Robots with Stiff and Compliant Actuation. Automatisierungstechnik, 2012, 60, 682-691.	0.8	10
57	Energetics of passivity-based running with high-compliance series elastic actuation. International Journal of Mechatronics and Manufacturing Systems, 2012, 5, 120.	0.1	2
58	A MATLAB framework for efficient gait creation. , 2011, , .		4
59	EXTRINSIC RGB-D CAMERA CALIBRATION FOR LEGGED ROBOTS. , 2011, , .		1
60	HIGH COMPLIANT SERIES ELASTIC ACTUATION FOR THE ROBOTIC LEG SCARLETH. , 2011, , .		30
61	A MATLAB framework for efficient gait creation. , 2011, , .		23
62	ScarlETH: Design and control of a planar running robot. , 2011, , .		67
63	Scaling walls: Applying dry adhesives to the real world. , 2011, , .		4
64	WALKING AND CRAWLING WITH ALoF - A ROBOT FOR AUTONOMOUS LOCOMOTION ON FOUR LEGS. , 2010, , .		5
65	HAPTIC TERRAIN CLASSIFICATION ON NATURAL TERRAINS FOR LEGGED ROBOTS. , 2010, , .		11
66	Haptic terrain classification for legged robots. , 2010, , .		68
67	Computational techniques for using insole pressure sensors to analyse three-dimensional joint kinetics. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 505-514.	1.6	15
68	SLIP running with an articulated robotic leg. , 2010, , .		66
69	Passive dynamic walking with quadrupeds - Extensions towards 3D. , 2010, , .		8
70	Stability Analysis of Passive Dynamic Walking of Quadrupeds. International Journal of Robotics Research, 2010, 29, 1173-1185.	8.5	52
71	FULL STATE CONTROL OF A SLIP MODEL BY TOUCHDOWN DETECTION. , 2010, , .		0
72	Optimal Estimation of Dynamically Consistent Kinematics and Kinetics for Forward Dynamic Simulation of Gait. Journal of Biomechanical Engineering, 2009, 131, 031005.	1.3	30

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73	Adaptive control strategies for open-loop dynamic hopping. , 2009, , .		4
74	'Body-in-the-Loop' Optimization of Assistive Robotic Devices: A Validation Study. , 0, , .		60
75	Modeling and Control of Soft Robots Using the Koopman Operator and Model Predictive Control. , 0, , .		74