

Matteo Laffranchi

List of Publications by Year in descending order

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Version: 2024-02-01

47
papers

2,031
citations

759233

12
h-index

888059

17
g-index

49
all docs

49
docs citations

49
times ranked

1539
citing authors

#	ARTICLE	IF	CITATIONS
1	Variable impedance actuators: A review. <i>Robotics and Autonomous Systems</i> , 2013, 61, 1601-1614.	5.1	822
2	A compact soft actuator unit for small scale human friendly robots. , 2009, , .		168
3	Variable stiffness actuators: The user's point of view. <i>International Journal of Robotics Research</i> , 2015, 34, 727-743.	8.5	160
4	The Hannes hand prosthesis replicates the key biological properties of the human hand. <i>Science Robotics</i> , 2020, 5, .	17.6	102
5	Perspectives and Challenges in Robotic Neurorehabilitation. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 3183.	2.5	68
6	Development and control of a series elastic actuator equipped with a semi active friction damper for human friendly robots. <i>Robotics and Autonomous Systems</i> , 2014, 62, 1827-1836.	5.1	58
7	Safe human robot interaction via energy regulation control. , 2009, , .		56
8	A variable physical damping actuator (VPDA) for compliant robotic joints. , 2010, , .		52
9	A compact compliant actuator (CompAct) with variable physical damping. , 2011, , .		49
10	Technological Approaches for Neurorehabilitation: From Robotic Devices to Brain Stimulation and Beyond. <i>Frontiers in Neurology</i> , 2018, 9, 212.	2.4	49
11	Antagonistic and series elastic actuators: a comparative analysis on the energy consumption. , 2009, , .		41
12	Variable impedance actuators: Moving the robots of tomorrow. , 2012, , .		36
13	Analysis and Development of a Semiactive Damper for Compliant Actuation Systems. <i>IEEE/ASME Transactions on Mechatronics</i> , 2013, 18, 744-753.	5.8	33
14	Challenges and solutions for application and wider adoption of wearable robots. <i>Wearable Technologies</i> , 2021, 2, .	3.1	23
15	EMG-driven control in lower limb prostheses: a topic-based systematic review. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2022, 19, 43.	4.6	23
16	Optimal control for maximizing velocity of the CompAct compliant actuator. , 2013, , .		19
17	Dynamics and Control of an Anthropomorphic Compliant Arm Equipped With Friction Clutches. <i>IEEE/ASME Transactions on Mechatronics</i> , 2016, 21, 694-707.	5.8	19
18	User-Centered Design and Development of the Modular TWIN Lower Limb Exoskeleton. <i>Frontiers in Neurobotics</i> , 2021, 15, 709731.	2.8	18

#	ARTICLE	IF	CITATIONS
19	On the stiffness design of intrinsic compliant manipulators. , 2013, , .		17
20	A Gravity-Compensated Upper-Limb Exoskeleton for Functional Rehabilitation of the Shoulder Complex. Applied Sciences (Switzerland), 2022, 12, 3364.	2.5	16
21	Model-free force tracking control of piezoelectric actuators: Application to variable damping actuator. , 2014, , .		15
22	The role of physical damping in compliant actuation systems. , 2012, , .		14
23	Dynamic modeling and adaptable control of the CompAct arm. , 2013, , .		14
24	Gait patterns generation based on basis functions interpolation for the TWIN lower-limb exoskeleton. , 2020, , .		14
25	Physical interaction detection and control of compliant manipulators equipped with friction clutches. , 2014, , .		13
26	Hybrid Machine Learning-Neuromusculoskeletal Modeling for Control of Lower Limb Prosthetics. , 2020, , .		13
27	Damping control of variable damping compliant actuators. , 2015, , .		12
28	The mechanical design of the new lower body for the child humanoid robot 'iCub'; , 2009, , .		11
29	Performance Evaluation of Pattern Recognition Algorithms for Upper Limb Prosthetic Applications. , 2020, , .		10
30	Hannes Prosthesis Control Based on Regression Machine Learning Algorithms. , 2021, , .		10
31	Exploring the Embodiment of a Virtual Hand in a Spatially Augmented Respiratory Biofeedback Setting. Frontiers in Neurobotics, 2021, 15, 683653.	2.8	9
32	CompAct Arm: a Compliant Manipulator with Intrinsic Variable Physical Damping. , 0, , .		9
33	Miniature EMG Sensors for Prosthetic Applications. , 2021, , .		8
34	FITFES: A Wearable Myoelectrically Controlled Functional Electrical Stimulator Designed Using a User-Centered Approach. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 2142-2152.	4.9	8
35	Link position control of a compliant actuator with unknown transmission friction torque. , 2013, , .		6
36	Real-time damping estimation for variable impedance actuators. , 2014, , .		6

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37	Neuro-Gerontechnologies: Applications and Opportunities. <i>Studies in Computational Intelligence</i> , 2022, , 123-153.	0.9	5
38	Analysis, Development and Evaluation of Electro-Hydrostatic Technology for Lower Limb Prostheses Applications. , 2020, , .		4
39	A novel curve fitting based discrete velocity estimator for high performance motion control. , 2012, , .		3
40	Improving Safety of Human-Robot Interaction Through Energy Regulation Control and Passive Compliant Design. , 2012, , .		3
41	An Integrated, Back-Drivable Electro-Hydrostatic Actuator for a Knee Prosthesis. , 2020, , .		3
42	Exoskeletons in Elderly Healthcare. <i>Studies in Computational Intelligence</i> , 2022, , 353-374.	0.9	3
43	From human to robot grasping: force and kinematic synergies. , 2022, , 133-148.		2
44	Benefits of the Cybathlon 2020 experience for a prosthetic hand user: a case study on the Hannes system. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2022, 19, .	4.6	2
45	Variable physical damping actuators (VPDAs): Facilitating the control and improving the performance of compliant actuation systems. , 2012, , .		1
46	Clinical evaluation of Hannes: measuring the usability of a novel polyarticulated prosthetic hand. , 2022, , 205-225.		1
47	Design and Testing of a Fully-Integrated Electro-Hydrostatic Actuator for Powered Knee Prostheses. <i>Biosystems and Biorobotics</i> , 2022, , 95-100.	0.3	0