

Domenico Campolo

List of Publications by Year in descending order

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Version: 2024-02-01

122
papers

1,638
citations

394421
19
h-index

414414
32
g-index

126
all docs

126
docs citations

126
times ranked

1298
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards a force-controlled microgripper for assembling biomedical microdevices. Journal of Micromechanics and Microengineering, 2000, 10, 271-276.	2.6	124
2	Liftoff of a Motor-Driven, Flapping-Wing Microaerial Vehicle Capable of Resonance. IEEE Transactions on Robotics, 2014, 30, 220-232.	10.3	105
3	Efficient charge recovery method for driving piezoelectric actuators with quasi-square waves. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2003, 50, 237-244.	3.0	90
4	Differential game theory for versatile physical human-robot interaction. Nature Machine Intelligence, 2019, 1, 36-43.	16.0	69
5	Development of PZT and PZT-PT based unimorph actuators for micromechanical flapping mechanisms. , 0, , .		53
6	Intrinsic Constraints of Neural Origin: Assessment and Application to Rehabilitation Robotics. IEEE Transactions on Robotics, 2009, 25, 492-501.	10.3	45
7	Can DC Motors Directly Drive Flapping Wings at High Frequency and Large Wing Strokes?. IEEE/ASME Transactions on Mechatronics, 2014, 19, 109-120.	5.8	45
8	Dynamically tuned design of the MFI thorax. , 0, , .		44
9	H-Man: A planar, H-shape cabled differential robotic manipulandum for experiments on human motor control. Journal of Neuroscience Methods, 2014, 235, 285-297.	2.5	42
10	Upper Extremity Proprioception in Healthy Aging and Stroke Populations, and the Effects of Therapist- and Robot-Based Rehabilitation Therapies on Proprioceptive Function. Frontiers in Human Neuroscience, 2015, 9, 120.	2.0	41
11	Forearm orientation guidance with a vibrotactile feedback bracelet: On the directionality of tactile motor communication. , 2008, , .		38
12	Kinematic analysis of the human wrist during pointing tasks. Experimental Brain Research, 2010, 201, 561-573.	1.5	37
13	3D Printing of Robotic Soft Grippers: Toward Smart Actuation and Sensing. Advanced Materials Technologies, 2022, 7, .	5.8	36
14	PI force control of a microgripper for assembling biomedical microdevices. IET Circuits, Devices and Systems, 2001, 148, 348.	0.6	32
15	Fabrication of gecko foot-hair like nano structures and adhesion to random rough surfaces. , 0, , .		29
16	Effects of Impedance Reduction of a Robot for Wrist Rehabilitation on Human Motor Strategies in Healthy Subjects during Pointing Tasks. Advanced Robotics, 2011, 25, 537-562.	1.8	28
17	An adaptive framework for robotic polishing based on impedance control. International Journal of Advanced Manufacturing Technology, 2021, 112, 401-417.	3.0	28
18	Impedance controlled human-robot collaborative tooling for edge chamfering and polishing applications. Robotics and Computer-Integrated Manufacturing, 2021, 72, 102199.	9.9	28

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19	Proprioceptive assessment in clinical settings: Evaluation of joint position sense in upper limb post-stroke using a robotic manipulator. PLoS ONE, 2017, 12, e0183257.	2.5	27
20	Human-Robot co-manipulation during surface tooling: A general framework based on impedance control, haptic rendering and discrete geometry. Robotics and Computer-Integrated Manufacturing, 2021, 67, 102033.	9.9	26
21	Development of piezoelectric bending actuators with embedded piezoelectric sensors for micromechanical flapping mechanisms. , 0, , .		25
22	Embedding inertial-magnetic sensors in everyday objects: Assessing spatial cognition in children. Journal of Integrative Neuroscience, 2012, 11, 103-116.	1.7	23
23	Controllability issues in flapping robot for biomimetic micro aerial vehicles (MAVs). , 0, , .		22
24	Pointing with the wrist: a postural model for Donders' law. Experimental Brain Research, 2011, 212, 417-427.	1.5	22
25	Robotic Assisted Upper Limb Training Post Stroke: A Randomized Control Trial Using Combinatory Approach Toward Reducing Workforce Demands. Frontiers in Neurology, 2021, 12, 622014.	2.4	21
26	A Novel Procedure for In-field Calibration of Sourceless Inertial/Magnetic Orientation Tracking Wearable Devices. , 0, , .		20
27	Inertial-Magnetic Sensors for Assessing Spatial Cognition in Infants. IEEE Transactions on Biomedical Engineering, 2011, 58, 1499-1503.	4.2	20
28	Attitude Estimation of a Biologically Inspired Robotic Housefly via Multimodal Sensor Fusion. Advanced Robotics, 2009, 23, 955-977.	1.8	17
29	A slip sensor for biorobotic applications using a hot wire anemometry approach. Sensors and Actuators A: Physical, 2012, 187, 201-208.	4.1	17
30	Inertial/Magnetic Sensors Based Orientation Tracking on the Group of Rigid Body Rotations with Application to Wearable Devices. , 2006, , .		16
31	Flapping wings via direct-driving by DC motors. , 2013, , .		16
32	Self-Paced Reaching after Stroke: A Quantitative Assessment of Longitudinal and Directional Sensitivity Using the H-Man Planar Robot for Upper Limb Neurorehabilitation. Frontiers in Neuroscience, 2016, 10, 477.	2.8	16
33	Ergonomic considerations for anthropomorphic wrist exoskeletons: A simulation study on the effects of joint misalignment. , 2011, , .		15
34	Motor adaptation with passive machines: A first study on the effect of real and virtual stiffness. Computer Methods and Programs in Biomedicine, 2014, 116, 145-155.	4.7	15
35	A mechatronic platform for early diagnosis of neurodevelopmental disorders. Advanced Robotics, 2007, 21, 1131-1150.	1.8	13
36	Design of a Sensorized Ball for Ecological Behavioral Analysis of Infants. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	13

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37	Multimodal sensor fusion for attitude estimation of micromechanical flying insects: A geometric approach. , 2008, , .		13
38	Analysis of Accuracy in Pointing with Redundant Hand-held Tools: A Geometric Approach to the Uncontrolled Manifold Method. PLoS Computational Biology, 2013, 9, e1002978.	3.2	13
39	Task-space separation principle: a force-field approach to motion planning for redundant manipulators. Bioinspiration and Biomimetics, 2017, 12, 026003.	2.9	13
40	Development of a new additive manufacturing platform for direct freeform 3D printing of intrinsically curved flexible membranes. Additive Manufacturing, 2020, 36, 101563.	3.0	13
41	Multi-source micro-friction identification for a class of cable-driven robots with passive backbone. Mechanical Systems and Signal Processing, 2016, 80, 152-165.	8.0	12
42	The effect of skill level matching in dyadic interaction on learning of a tracing task. , 2019, 2019, 824-829.		12
43	Elbow Motion Trajectory Prediction Using a Multi-Modal Wearable System: A Comparative Analysis of Machine Learning Techniques. Sensors, 2021, 21, 498.	3.8	12
44	Fast Kinematic Re-Calibration for Industrial Robot Arms. Sensors, 2022, 22, 2295.	3.8	11
45	Nonlinear consolidation models of clay with time dependant drainage properties. Mathematical and Computer Modelling, 2005, 42, 613-620.	2.0	10
46	Force control of a robot for wrist rehabilitation: Towards coping with human intrinsic constraints. , 2010, , .		10
47	Motor selection via impedance-matching for driving nonlinearly damped, resonant loads. Mechatronics, 2010, 20, 566-573.	3.3	9
48	Hyperstaticity for ergonomie design of a wrist exoskeleton. , 2013, 2013, 6650417.		9
49	Towards Development of Biomechatronic Tools for Early Diagnosis of Neurodevelopmental Disorders. , 2006, 2006, 3242-5.		8
50	Attitude Stabilization of a Biologically Inspired Robotic Housefly via Dynamic Multimodal Attitude Estimation. Advanced Robotics, 2009, 23, 2113-2138.	1.8	8
51	Quantitative motor assessment of upperlimb after unilateral stroke: A preliminary feasibility study with H-Man, a planar robot. , 2015, , .		8
52	An Extended Passive Motion Paradigm for Human-Like Posture and Movement Planning in Redundant Manipulators. Frontiers in Neurorobotics, 2017, 11, 65.	2.8	8
53	Estimating Human Wrist Stiffness during a Tooling Task. Sensors, 2020, 20, 3260.	3.8	8
54	A preliminary study for quantitative assessment of upper limb proprioception. , 2016, 2016, 4614-4617.		7

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55	A preliminary study on the relationship between proprioceptive deficits and motor functions in chronic stroke patients. , 2019, 2019, 465-470.		7
56	Towards application of a mechatronic platform for whole-body isometric force-torque measurements to functional assessment in neuro-rehabilitation. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	6
57	Accuracy and repeatability of parameter estimation methods from ambulatory data for the wrist joint. , 2011, 2011, 1292-6.		6
58	Identification of shoulder muscle synergies in healthy subjects during an isometric task. , 2017, 2017, 134-139.		6
59	Quantitative assessment of motor functions post-stroke: Responsiveness of upper-extremity robotic measures and its task dependence. , 2017, 2017, 1037-1042.		6
60	Deep Reinforcement Learning for Motion Planning of Quadrotors Using Raw Depth Images. , 2020, , .		6
61	Ergonomic considerations for anthropomorphic wrist exoskeletons: A simulation study on the effects of joint misalignment. , 2011, , .		6
62	A novel technological approach towards the early diagnosis of neurodevelopmental disorders. , 2008, 2008, 4875-8.		5
63	On the kinematics of human wrist during pointing tasks with application to motor rehabilitation. , 2008, , .		5
64	Design and assembling of a magneto-inertial wearable device for ecological behavioral analysis of infants. , 2008, , .		5
65	Block-box instrumented toy: A new platform for assessing spatial cognition in infants. , 2009, 2009, 210-3.		5
66	Multimodal Ecological Technology: From Childâ€™s Social Behavior Assessment to Child-Robot Interaction Improvement. International Journal of Social Robotics, 2011, 3, 69-81.	4.6	5
67	Subject-Specific Wrist Model Calibration and Application to Ergonomic Design of Exoskeletons. IEEE Sensors Journal, 2013, 13, 3293-3301.	4.7	5
68	Role of EMG as a complementary tool for assessment of motor impairment. , 2016, , .		5
69	Human-robot collaboration for tooling path guidance. , 2016, , .		5
70	A Soft Electrochemical Actuator for Biomedical Robotics. , 0, , .		4
71	A thermal slip sensor for biorobotic applications. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	4
72	Beyond Biomimetics: Towards Insect/Machine Hybrid Controllers for Space Applications. Advanced Robotics, 2009, 23, 939-953.	1.8	4

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73	Energetic analysis for self-powered cochlear implants. , 2009, 2009, 4860-3.		4
74	Motor adaptation during redundant tasks with the wrist. , 2011, 2011, 4046-9.		4
75	H-Man: Characterization of a novel, portable, inexpensive planar robot for arm rehabilitation. , 2014, , .		4
76	Preliminary feasibility study of the H-Man planar robot for quantitative motor assessment. , 2015, , .		4
77	‘Feel the Painting’; a clinician-friendly approach to programming planar force fields for haptic devices. , 2015, , .		4
78	Human-like pointing strategies via non-linear inverse optimization. , 2016, , .		4
79	Manual guidance of a compliant manipulator during curve-following tasks: Basic framework and preliminary experimental tests. , 2016, , .		4
80	Interactive robot assistance for upper-limb training. , 2018, , 137-148.		4
81	A geometric framework for the estimation of joint stiffness of the human wrist. , 2019, 2019, 151-156.		4
82	A Complementary Filter Design on SE(3) to Identify Micro-Motions during 3D Motion Tracking. Sensors, 2020, 20, 5864.	3.8	4
83	Black-Scholes Theory and Diffusion Processes on the Cotangent Bundle of the Affine Group. Entropy, 2020, 22, 455.	2.2	4
84	A Hessian-based decomposition characterizes how performance in complex motor skills depends on individual strategy and variability. PLoS ONE, 2021, 16, e0253626.	2.5	4
85	A mechatronic system for in-plane ground-reaction-force measurement for tremor analysis in animal models. , 2005, , .		3
86	Towards the Early Diagnosis of Neurodevelopmental Disorders: a Novel Technological Approach. , 2008, , .		3
87	A Modular Platform for In-plane Ground Reaction Forces Detection in a Mouse Model: Design, Development and Verification. Advanced Robotics, 2008, 22, 141-157.	1.8	3
88	Coping with intrinsic constraints of neural origin in the design of rehabilitation robots: A preliminary study. , 2009, , .		3
89	Characterization of impedance rendering with a cable-driven agonist-antagonist haptic device. , 2014, , .		3
90	Geometry of contact during tooling tasks via dynamic estimation. International Journal of Advanced Manufacturing Technology, 2018, 94, 2895-2904.	3.0	3

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91	Design and characterization of an instrumented hand-held power tool to capture dynamic interaction with the workpiece during manual operations. International Journal of Advanced Manufacturing Technology, 2020, 111, 199-212.	3.0	3
92	A micro flow-meter for closed-loop management of biological samples. , 2005, 2005, 5062-5.		2
93	Design and development of a miniaturized 2-axis force sensor for tremor analysis during locomotion in small-sized animal models. , 2005, 2005, 5054-7.		2
94	Conceptualization of an insect/machine hybrid controller for space applications. , 2008, , .		2
95	Instrumented toys for assessing spatial cognition in infants. Frontiers of Mechanical Engineering in China, 2010, 6, 82.	0.4	2
96	Cartesian stiffness for wrist joints: analysis on the Lie group of 3D rotations and geometric approximation for experimental evaluation. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 975-986.	1.6	2
97	Ergonomic design of a wrist exoskeleton and its effects on natural motor strategies during redundant tasks. , 2013, , .		2
98	A novel robot for arm motor therapy with homogeneous mechanical properties. , 2014, , .		2
99	Modelling and optimisation of a mechanism-based metamaterial for a wrist flexion-extension assistive device. , 2021, , .		2
100	A general model for guiding the design of biomechatronic systems implantable into the brain. , 0, , .		1
101	Mechatronics and Phenomics: a case-study on tremor detection during locomotion in small-sized animals. , 0, , .		1
102	Calibration of a multimodal head-mounted device for ecological assessment of social orienting behavior in children. , 2009, , .		1
103	Effects on human motor strategies of physical interaction with a force-controlled wrist rehabilitation robot. , 2010, , .		1
104	Ergonomic design of a wrist robot. International Journal of Intelligent Computing and Cybernetics, 2014, 7, 289-306.	2.7	1
105	Instrumentation of a hand-held power tool for capturing dynamic interaction during finishing tasks. , 2016, , .		1
106	Community-based neurorehabilitation in underserved populations. , 2016, , .		1
107	Wrist Proprioception in Acute and Subacute Stroke: A Robotic Protocol for Highly Impaired Patients. , 2018, , .		1
108	Robot-sensor calibration for a 3D vision assisted drawing robot. , 2019, , .		1

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109	Haptic Manipulation of 3D Scans for Geometric Feature Enhancement. Sensors, 2021, 21, 2716.	3.8	1
110	Work with me, not for me: Relationship between robotic assistance and performance in subacute and chronic stroke patients. Journal of Rehabilitation and Assistive Technologies Engineering, 2019, 6, 205566831988158.	0.9	1
111	Model-Based Reinforcement Learning with LSTM Networks for Non-Prehensile Manipulation Planning. , 2021, , .		1
112	A novel method for in-situ calibration of a 2-dof force platform for tremor detection in small-sized animal models. , 2008, , .		0
113	Chapter 3 Interfacing Insect Brain for Space Applications. International Review of Neurobiology, 2009, 86, 39-47.	2.0	0
114	A mobile robotic platform exploiting the navigational capabilities of the Carassius auratus using a natural interface. , 2010, , .		0
115	A geometric approach to the Uncontrolled Manifold analysis. , 2012, , .		0
116	Guest Editorial: Special Issue on Haptics in Rehabilitation and Neural Engineering. IEEE Transactions on Haptics, 2014, 7, 107-109.	2.7	0
117	Review of robotic control strategies for industrial finishing operations. , 2015, , .		0
118	A modular sensorized handle for the training of functional tasks with planar neurorehabilitation setups. , 2016, , .		0
119	Joint stiffness and mechanical impedance estimation during a tooling task. , 2017, , .		0
120	Instrumentation of a grinding tool for capturing dynamic interactions with the workpiece. , 2017, , .		0
121	Pose interpolation for industrial manipulators under manual guidance. , 2017, , .		0
122	Methodology for the Evaluation of Magneto-Inertial Orientation Filters in SO(3). , 2019, , .		0