Federico Renda

List of Publications by Year
in descending order

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50	2,269	394421	361022
papers	citations	19 h-index	35 g-index

55	55	55	1408
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Discrete Cosserat Method for Soft Manipulators Workspace Estimation: An Optimization-Based Approach. Journal of Mechanisms and Robotics, 2022, 14, .	2.2	5
2	Flagellate Underwater Robotics at Macroscale: Design, Modeling, and Characterization. IEEE Transactions on Robotics, 2022, 38, 731-747.	10.3	18
3	CTR DaPP: A Python Application for Design and Path Planning of Variable-strain Concentric Tube Robots. , 2022, , .		0
4	Geometrically-Exact Inverse Kinematic Control of Soft Manipulators With General Threadlike Actuatorsâ€™ Routing. IEEE Robotics and Automation Letters, 2022, 7, 7311-7318.	5.1	8
5	Compliant gripper design, prototyping, and modeling using screw theory formulation. International Journal of Robotics Research, 2021, 40, 55-71.	8.5	23
6	Coupling Numerical Deformable Models in Global and Reduced Coordinates for the Simulation of the Direct and the Inverse Kinematics of Soft Robots. IEEE Robotics and Automation Letters, 2021, 6, 3910-3917.	5.1	14
7	Discrete Cosserat Approach for Closed-Chain Soft Robots: Application to the Fin-Ray Finger. IEEE Transactions on Robotics, 2021, 37, 2083-2098.	10.3	24
8	A Sliding-Rod Variable-Strain Model for Concentric Tube Robots. IEEE Robotics and Automation Letters, 2021, 6, 3451-3458.	5.1	16
9	ReSoft Gripper: A reconfigurable soft gripper with monolithic fingers and differential mechanism for versatile and delicate grasping. , 2021, , .		8
10	Exploiting the instability of eccentric tube robots for distal force control in minimally invasive cardiac ablation. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2021, 235, 7212-7232.	2.1	3
11	Dynamics of Continuum and Soft Robots: A Strain Parameterization Based Approach. IEEE Transactions on Robotics, 2021, 37, 847-863.	10.3	77
12	Extended Hamiltonâ€™s principle applied to geometrically exact Kirchhoff sliding rods. Journal of Sound and Vibration, 2021, 516, 116511.	3.9	11
13	First-Order Dynamic Modeling and Control of Soft Robots. Frontiers in Robotics and AI, 2020, 7, 95.	3.2	28
14	Concentric Tube Robots for Minimally Invasive Surgery: Current Applications and Future Opportunities. IEEE Transactions on Medical Robotics and Bionics, 2020, 2, 410-424.	3.2	49
15	Design and prototyping softâ€“rigid tendon-driven modular grippers using interpenetrating phase composites materials. International Journal of Robotics Research, 2020, 39, 1635-1646.	8.5	45
16	A Geometric Variable-Strain Approach for Static Modeling of Soft Manipulators With Tendon and Fluidic Actuation. IEEE Robotics and Automation Letters, 2020, 5, 4006-4013.	5.1	61
17	Design and Prototype of Supernumerary Robotic Finger (SRF) Inspired by Fin RayÂ® Effect for Patients Suffering from Sensorimotor Hand Impairment. , 2019, , .		18
18	Modeling and prototyping of a soft closed-chain modular gripper. Industrial Robot, 2019, 46, 135-145.	2.1	15

#	Article	IF	Citations
19	Emergence of behavior through morphology: a case study on an octopus inspired manipulator. Bioinspiration and Biomimetics, 2019, 14, 034001.	2.9	8
20	Design, Modeling and Testing of a Flagellum-inspired Soft Underwater Propeller Exploiting Passive Elasticity. , 2019, , .		2
21	Model-Based Reinforcement Learning for Closed-Loop Dynamic Control of Soft Robotic Manipulators. IEEE Transactions on Robotics, 2019, 35, 124-134.	10.3	228
22	Underwater Robotic Welding of Lap Joints with Sandwiched Reactive Multilayers: Thermal, Mechanical and Material Analysis. MRS Advances, 2018, 3, 911-920.	0.9	3
23	Dynamic modeling and numerical simulations of a passive robotic walker using Euler-Lagrange method. , 2018, , .		1
24	Discrete Cosserat Approach for Multisection Soft Manipulator Dynamics. IEEE Transactions on Robotics, 2018, 34, 1518-1533.	10.3	176
25	A Geometric and Unified Approach for Modeling Soft-Rigid Multi-Body Systems with Lumped and Distributed Degrees of Freedom. , 2018, , .		32
26	A unified multi-soft-body dynamic model for underwater soft robots. International Journal of Robotics Research, 2018, 37, 648-666.	8.5	49
27	Modeling and Prototyping of an Underactuated Gripper Exploiting Joint Compliance and Modularity. IEEE Robotics and Automation Letters, 2018, 3, 2854-2861.	5.1	43
28	Screw-Based Modeling of Soft Manipulators With Tendon and Fluidic Actuation. Journal of Mechanisms and Robotics, 2017, 9, .	2.2	30
29	Learning dynamic models for open loop predictive control of soft robotic manipulators. Bioinspiration and Biomimetics, 2017, 12, 066003.	2.9	96
30	PoincarÃ©â€™s Equations for Cosserat Media: Application to Shells. Journal of Nonlinear Science, 2017, 27, 1-44.	2.1	29
31	Discrete Cosserat approach for soft robot dynamics: A new piece-wise constant strain model with torsion and shears. , 2016, , .		56
32	Modelling the nonlinear response of fibre-reinforced bending fluidic actuators. Smart Materials and Structures, 2016, 25, 105020.	3.5	40
33	Learning Global Inverse Statics Solution for a Redundant Soft Robot. , 2016, , .		28
34	Thrust depletion at high pulsation frequencies in underactuated, soft-bodied, pulsed-jet vehicles. , 2015, , .		12
35	Structural Dynamics of a Pulsed-Jet Propulsion System for Underwater Soft Robots. International Journal of Advanced Robotic Systems, 2015, 12, 68.	2.1	20
36	Modelling cephalopod-inspired pulsed-jet locomotion for underwater soft robots. Bioinspiration and Biomimetics, 2015, 10, 055005.	2.9	41

#	Article	IF	Citations
37	Locomotion and elastodynamics model of an underwater shell-like soft robot. , 2015, , .		13
38	Neural Network and Jacobian Method for Solving the Inverse Statics of a Cable-Driven Soft Arm With Nonconstant Curvature. IEEE Transactions on Robotics, 2015, 31, 823-834.	10.3	155
39	Learning the inverse kinetics of an octopus-like manipulator in three-dimensional space. Bioinspiration and Biomimetics, 2015, 10, 035006.	2.9	47
40	PoincarÃ© Equations for Cosserat Shells: Application to Cephalopod Locomotion. Lecture Notes in Computer Science, 2015, , 511-518.	1.3	0
41	Dynamic Model of a Multibending Soft Robot Arm Driven by Cables. IEEE Transactions on Robotics, 2014, 30, 1109-1122.	10.3	328
42	Dynamic Model of a Jet-Propelled Soft Robot Inspired by the Octopus Mantle. Lecture Notes in Computer Science, 2014, , 261-272.	1.3	3
43	A Feed Forward Neural Network for Solving the Inverse Kinetics of Non-Constant Curvature Soft Manipulators Driven by Cables. , 2013, , .		6
44	A feed-forward neural network learning the inverse kinetics of a soft cable-driven manipulator moving in three-dimensional space. , 2013, , .		76
45	Inverse and Direct Model of a Continuum Manipulator Inspired by the Octopus Arm. Lecture Notes in Computer Science, 2012, , 347-348.	1.3	1
46	A 3D steady-state model of a tendon-driven continuum soft manipulator inspired by the octopus arm. Bioinspiration and Biomimetics, 2012, 7, 025006.	2.9	160
47	Sensorization of continuum soft robots for reconstructing their spatial configuration. , 2012, , .		33
48	Design and development of a soft robot with crawling and grasping capabilities. , 2012, , .		49
49	A general mechanical model for tendon-driven continuum manipulators. , 2012, , .		31
50	A two dimensional inverse kinetics model of a cable driven manipulator inspired by the octopus arm. , 2012, , .		43