Alessandro De Luca

List of Publications by Year
in descending order

125	8,053	117625	123424
papers	citations	34 h-index	61 g-index

128	128	128	4372
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	An atlas of physical humanâ€“robot interaction. Mechanism and Machine Theory, 2008, 43, 253-270.	4.5	634
2	WMR control via dynamic feedback linearization: design, implementation, and experimental validation. IEEE Transactions on Control Systems Technology, 2002, 10, 835-852.	5.2	615
3	Robot Collisions: A Survey on Detection, Isolation, and Identification. IEEE Transactions on Robotics, 2017, 33, 1292-1312.	10.3	469
4	Collision Detection and Safe Reaction with the DLR-III Lightweight Manipulator Arm. , 2006, , .		429
5	Collision Detection and Reaction: A Contribution to Safe Physical Human-Robot Interaction. , 2008, , .		361
6	Closed-form dynamic model of planar multilink lightweight robots. IEEE Transactions on Systems, Man, and Cybernetics, 1991, 21, 826-839.	0.9	312
7	A depth space approach to human-robot collision avoidance. , 2012, , .		280
8	PD control with on-line gravity compensation for robots with elastic joints: Theory and experiments. Automatica, 2005, 41, 1809-1819.	5.0	224
9	Sensorless Robot Collision Detection and Hybrid Force/Motion Control. , 0, , .		189
10	Design of an exact nonlinear controller for induction motors. IEEE Transactions on Automatic Control, 1989, 34, 1304-1307.	5.7	173
11	Feature Depth Observation for Image-based Visual Servoing: Theory and Experiments. International Journal of Robotics Research, 2008, 27, 1093-1116.	8.5	151
12	Dynamic Identification of the Franka Emika Panda Robot With Retrieval of Feasible Parameters Using Penalty-Based Optimization. IEEE Robotics and Automation Letters, 2019, 4, 4147-4154.	5.1	151
13	Control of Redundant Robots Under Hard Joint Constraints: Saturation in the Null Space. IEEE Transactions on Robotics, 2015, 31, 637-654.	10.3	146
14	Trajectory control of a non-linear one-link flexible arm. International Journal of Control, 1989, 50, 1699-1715.	1.9	139
15	Inversion techniques for trajectory control of flexible robot arms. Journal of Field Robotics, 1989, 6, 325-344.	0.7	135
16	Integrated control for pHRI: Collision avoidance, detection, reaction and collaboration. , 2012, , .		134
17	Trajectory Planning and Control for Planar Robots with Passive Last Joint. International Journal of Robotics Research, 2002, 21, 575-590.	8.5	110
18	Human-robot physical interaction and collaboration using an industrial robot with a closed control architecture. , 2013, , .		108

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19	Robots with Flexible Elements. , 2008, , 287-319.		103
20	Control of generalized contact motion and force in physical human-robot interaction. , 2015, , .		102
21	Stabilization of an underactuated planar 2R manipulator. , 2000, 10, 181-198.		100
22	CyberWalk. ACM Transactions on Applied Perception, 2011, 8, 1-22.	1.9	100
23	A Depth Space Approach for Evaluating Distance to Objects. Journal of Intelligent and Robotic Systems: Theory and Applications, 2015, 80, 7-22.	3.4	97
24	Human-robot coexistence and interaction in open industrial cells. Robotics and Computer-Integrated Manufacturing, 2020, 61, 101846.	9.9	93
25	Evaluation of Wearable Haptic Systems for the Fingers in Augmented Reality Applications. IEEE Transactions on Haptics, 2017, 10, 511-522.	2.7	89
26	Estimation of contact forces using a virtual force sensor. , 2014, , .		86
27	Inversion-based nonlinear control of robot arms with flexible links. Journal of Guidance, Control, and Dynamics, 1993, 16, 1169-1176.	2.8	85
28	On the Feedback Linearization of Robots with Variable Joint Stiffness. , 2008, , .		84
29	Robots with Flexible Elements. Springer Handbooks, 2016, , 243-282.	0.6	82
30	Motion control of redundant robots under joint constraints: Saturation in the Null Space. , 2012, , .		79
31	Compliance Control for an Anthropomorphic Robot with Elastic Joints: Theory and Experiments. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2005, 127, 321-328.	1.6	77
32	Friction Observer and Compensation for Control of Robots with Joint Torque Measurement. , 2008, , .		70
33	Regulation of flexible arms under gravity. IEEE Transactions on Automation Science and Engineering, 1993, 9, 463-467.	2.3	69
34	A frequency-domain approach to learning control: implementation for a robot manipulator. IEEE Transactions on Industrial Electronics, 1992, 39, 1-10.	7.9	66
35	Modeling of robots in contact with a dynamic environment. IEEE Transactions on Automation Science and Engineering, 1994, 10, 542-548.	2.3	64
36	A model-based residual approach for human-robot collaboration during manual polishing operations. Mechatronics, 2018, 55, 234-247.	3.3	63

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37	Identifying the dynamic model used by the KUKA LWR: A reverse engineering approach. , 2014, , .		59
38	Discrete-time redundancy resolution at the velocity level with acceleration/torque optimization properties. Robotics and Autonomous Systems, 2015, 70, 191-201.	5.1	53
39	Making virtual walking real. ACM Transactions on Applied Perception, 2010, 7, 1-14.	1.9	52
40	An Acceleration-based State Observer for Robot Manipulators with Elastic Joints. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	51
41	Real-Time Computation of Distance to Dynamic Obstacles With Multiple Depth Sensors. IEEE Robotics and Automation Letters, 2017, 2, 56-63.	5.1	50
42	A sensitivity approach to optimal spline robot trajectories. Automatica, 1991, 27, 535-539.	5.0	49
43	Image-based visual servoing schemes for nonholonomic mobile manipulators. Robotica, 2007, 25, 131-145.	1.9	47
44	Efficient Computation of Inverse Dynamics and Feedback Linearization for VSA-Based Robots. IEEE Robotics and Automation Letters, 2016, 1, 908-915.	5.1	46
45	A modified newton-euler method for dynamic computations in robot fault detection and control. , 2009, , .		45
46	On-Line Estimation of Feature Depth for Image-Based Visual Servoing Schemes. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	44
47	On-line estimation of variable stiffness in flexible robot joints. International Journal of Robotics Research, 2012, 31, 1556-1577.	8.5	43
48	Exploiting Robot Redundancy in Collision Detection and Reaction. , 2008, , .		42
49	Nonlinear decoupled motion-stiffness control and collision detection/reaction for the VSA-II variable stiffness device. , 2009, , .		42
50	A PD-type regulator with exact gravity cancellation for robots with flexible joints. , 2011, , .		41
51	An iterative scheme for learning gravity compensation in flexible robot arms. Automatica, 1994, 30, 993-1002.	5.0	38
52	Relaxed fault detection and isolation: An application to a nonlinear case study. Automatica, 2006, 42, 109-116.	5.0	38
53	Kinematic modeling and redundancy resolution for nonholonomic mobile manipulators. , 0, , .		37
54	Prioritized multi-task motion control of redundant robots under hard joint constraints. , 2012, , .		37

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55	A Bayesian framework for optimal motion planning with uncertainty. , 2008, , .		34
56	Nonlinear Fault Detection and Isolation in a Three-Tank Heating System. IEEE Transactions on Control Systems Technology, 2006, 14, 1158-1166.	5.2	32
57	Joint-Based Control of a Nonlinear Model of a Flexible Arm. , 1988, , .		30
58	Extracting feasible robot parameters from dynamic coefficients using nonlinear optimization methods. , 2016, , .		30
59	Steering a class of redundant mechanisms through end-effector generalized forces. IEEE Transactions on Automation Science and Engineering, 1998, 14, 329-335.	2.3	28
60	Nonholonomic behavior in redundant robots under kinematic control. IEEE Transactions on Automation Science and Engineering, 1997, 13, 776-782.	2.3	26
61	Trajectory control of flexible manipulators. Lecture Notes in Control and Information Sciences, 1998, , 83-104.	1.0	26
62	An identification scheme for robot actuator faults. , 2005, , .		25
63	A recursive Newton-Euler algorithm for robots with elastic joints and its application to control. , 2015, , .		25
64	Admittance Control for Human-Robot Interaction Using an Industrial Robot Equipped with a F/T Sensor. , 2019, , .		25
65	Residual-based stiffness estimation in robots with flexible transmissions. , 2011, , .		24
66	A reverse priority approach to multi-task control of redundant robots. , 2014, , .		24
67	Rest-to-Rest Motion for Planar Multi-Link Flexible Manipulator Through Backward Recursion. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2004, 126, 115-123.	1.6	22
68	Combining real and virtual sensors for measuring interaction forces and moments acting on a robot. , 2016, , .		22
69	Human-robot contactless collaboration with mixed reality interface. Robotics and Computer-Integrated Manufacturing, 2021, 67, 102030.	9.9	22
70	Kinematic control of nonholonomic mobile manipulators in the presence of steering wheels. , 2010, , .		21
71	Combining Wearable Finger Haptics and Augmented Reality: User Evaluation Using an External Camera and the Microsoft HoloLens. IEEE Robotics and Automation Letters, 2018, 3, 4297-4304.	5.1	21
72	On the Control of Robots with Visco-Elastic Joints. , 0, , .		20

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73	Multiple depth/presence sensors: Integration and optimal placement for human/robot coexistence. , 2010, , .		20
74	Time-Optimal Trajectory Planning for Flexible Joint Robots. IEEE Robotics and Automation Letters, 2020, 5, 938-945.	5.1	20
75	3D Structure Identification from Image Moments. , 2008, , .		19
76	Dynamic gravity cancellation in robots with flexible transmissions. , 2010, , .		19
77	PD control with on-line gravity compensation for robots with flexible links. , 2007, , .		18
78	Motion Control of the CyberCarpet Platform. IEEE Transactions on Control Systems Technology, 2013, 21, 410-427.	5.2	18
79	Faster Motion on Cartesian Paths Exploiting Robot Redundancy at the Acceleration Level. IEEE Robotics and Automation Letters, 2018, 3, 3553-3560.	5.1	18
80	An asymptotically stable joint PD controller for robot arms with flexible links under gravity. , 0, , .		17
81	Hybrid force/velocity control for physical human-robot collaboration tasks. , 2016, , .		17
82	Payload estimation based on identified coefficients of robot dynamics â€" With an application to collision detection. , 2017, , .		16
83	Optimal redundancy resolution with task scaling under hard bounds in the robot joint space. , 2013, , .		15
84	Human-robot coexistence and contact handling with redundant robots. , 2017, , .		15
85	Acceleration-level control of the CyberCarpet. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	14
86	Visual Servoing with Exploitation of Redundancy: An Experimental Study. , 2008, , .		14
87	Safe physical human-robot collaboration. , 2013, , .		14
88	Adaptive predictive gaze control of a redundant humanoid robot head. , 2011, , .		13
89	Collision Detection, Identification, and Localization on the DLR SARA Robot with Sensing Redundancy. , 2021, , .		13
90	Stiffness Estimation and Nonlinear Control of Robots with Variable Stiffness Actuation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 6872-6879.	0.4	11

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91	Linear-Quadratic Optimal Boundary Control of a One-Link Flexible Arm. , 2021, 5, 833-838.		11
92	End-effector regulation of robots with elastic elements by an iterative scheme. International Journal of Adaptive Control and Signal Processing, 1996, 10, 379-393.	4.1	10
93	Nonlinear Regulation of End-Effector Motion for a Flexible Robot Arm. , 1991, , 229-236.		10
94	Exact augmented lagrangian approach to multilevel optimization of large-scale systems. International Journal of Systems Science, 1987, 18, 157-176.	5.5	9
95	Control design and experimental evaluation of the 2D CyberWalk platform. , 2009, , .		9
96	A pure signal-based stiffness estimation for VSA devices. , 2014, , .		9
97	Unilateral constraints in the Reverse Priority redundancy resolution method. , 2015, , .		9
98	Port-based modeling of human-robot collaboration towards safety-enhancing energy shaping control. , 2016, , .		9
99	Stable Torque Optimization for Redundant Robots Using a Short Preview. IEEE Robotics and Automation Letters, 2019, 4, 2046-2053.	5.1	8
100	The motion control problem for the CyberCarpet. , 0, , .		7
101	Discrete-time velocity control of redundant robots with acceleration/torque optimization properties. , 2014, , .		7
102	Actuator design of compliant walkers via optimal control. , 2017, , .		7
103	Visual coordination task for human-robot collaboration. , 2017, , .		6
104	Feedback Regulation of Elastically Decoupled Underactuated Soft Robots. IEEE Robotics and Automation Letters, 2022, 7, 4512-4519.	5.1	6
105	Reconfiguration of redundant robots under kinematic inversion. Advanced Robotics, 1995, 10, 249-263.	1.8	5
106	Fast redundancy resolution for high-dimensional robots executing prioritized tasks under hard bounds in the joint space. , 2013, , .		5
107	A model predictive control approach for the Partner Ballroom Dance Robot. , 2015, , .		5
108	Task Priority Matrix at the Acceleration Level: Collision Avoidance Under Relaxed Constraints. IEEE Robotics and Automation Letters, 2020, 5, 4970-4977.	5.1	5

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109	Locomotion and Telepresence in Virtual and Real Worlds. Springer Proceedings in Advanced Robotics, 2019, , 85-98.	1.3	5
110	On-Line Learning for Planning and Control of Underactuated Robots With Uncertain Dynamics. IEEE Robotics and Automation Letters, 2022, 7, 358-365.	5.1	5
111	Dynamic Feedback Control of XYn?? Planar Robots with n Rotational Passive Joints. Journal of Field Robotics, 2003, 20, 251-270.	0.7	4
112	Adaptive predictive gaze control of a redundant humanoid robot head. , 2011, , .		3
113	Modeling and control alternatives for robots in dynamic cooperation. , 0, , .		2
114	Comments on "Adaptive variable structure set-point control of underactuated robots". IEEE Transactions on Automatic Control, 2001, 46, 809-811.	5.7	2
115	Conditions for Detecting and Isolating Sets of Faults in Nonlinear Systems. , 0, , .		2
116	Trajectory Tracking in Flexible Robot Arms. , 1992, , 17-34.		2
117	Kinematic Control of Redundant Robots With Online Handling of Variable Generalized Hard Constraints. IEEE Robotics and Automation Letters, 2022, 7, 9279-9286.	5.1	2
118	Aggregation in Sraffa's simple production model. Journal of Economics/ Zeitschrift Fur Nationalokonomie, 1987, 47, 167-193.	0.7	1
119	Flexible Robots. , 2021, , 814-822.		1
120	Stabilization of an underactuated planar 2R manipulator. International Journal of Robust and Nonlinear Control, 2000, 10, 181-198.	3.7	1
121	Flexible Robots. , 2020, , 1-9.		1
122	Robust estimation of variable stiffness in flexible joints. , 2011, , .		0
123	Flexible Robots. , 2013, , 1-10.		0
124	Fabrizio Flacco [In Memoriam]. IEEE Robotics and Automation Magazine, 2016, 23, 199-200.	2.0	0
125	Flexible Robots. , 2020, , 1-9.		0