

# Luigi Villani

## List of Publications by Year in descending order

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100  
papers

4,306  
citations

186265

28  
h-index

138484

58  
g-index

107  
all docs

107  
docs citations

107  
times ranked

2865  
citing authors

#	ARTICLE	IF	CITATIONS
1	RGB-D Recognition and Localization of Cases for Robotic Depalletizing in Supermarkets. IEEE Robotics and Automation Letters, 2020, 5, 6233-6238.	5.1	14
2	A Flexible Robotic Depalletizing System for Supermarket Logistics. IEEE Robotics and Automation Letters, 2020, 5, 4471-4476.	5.1	17
3	An External Force Sensing System for Minimally Invasive Robotic Surgery. IEEE/ASME Transactions on Mechatronics, 2020, 25, 1543-1554.	5.8	24
4	A Reconfigurable Gripper for Robotic Autonomous Depalletizing in Supermarket Logistics. IEEE Robotics and Automation Letters, 2020, 5, 4612-4617.	5.1	13
5	The MUSHA underactuated hand for robot-aided minimally invasive surgery. International Journal of Medical Robotics and Computer Assisted Surgery, 2019, 15, e1981.	2.3	13
6	Vision-based Virtual Fixtures Generation for Robotic-Assisted Polyp Dissection Procedures. , 2019, , .		10
7	Autonomy in surgical robots and its meaningful human control. Paladyn, 2019, 10, 30-43.	2.7	53
8	Tracking Control of Redundant Manipulators with Singularity-Free Orientation Representation and Null-Space Compliant Behaviour. Springer Proceedings in Advanced Robotics, 2019, , 15-28.	1.3	1
9	Control of redundant robot arms with null-space compliance and singularity-free orientation representation. Robotics and Autonomous Systems, 2018, 100, 186-193.	5.1	20
10	A New Laparoscopic Tool With In-Hand Rolling Capabilities for Needle Reorientation. IEEE Robotics and Automation Letters, 2018, 3, 2354-2361.	5.1	19
11	Passive Virtual Fixtures Adaptation in Minimally Invasive Robotic Surgery. IEEE Robotics and Automation Letters, 2018, 3, 3129-3136.	5.1	44
12	Nonprehensile Manipulation of Deformable Objects: Achievements and Perspectives from the Robotic Dynamic Manipulation Project. IEEE Robotics and Automation Magazine, 2018, 25, 83-92.	2.0	22
13	Redundancy Resolution in Human-Robot Co-manipulation with Cartesian Impedance Control. Springer Tracts in Advanced Robotics, 2016, , 165-176.	0.4	4
14	Variable Impedance Control of Redundant Manipulators for Intuitive Human-Robot Physical Interaction. IEEE Transactions on Robotics, 2015, 31, 850-863.	10.3	326
15	Visual servoing with safe interaction using image moments. , 2015, , .		8
16	Cartesian impedance control of redundant manipulators for human-robot co-manipulation. , 2014, , .		58
17	Experimental study on task space control during physical human robot interaction. , 2014, , .		3
18	Task-Space Control of Robot Manipulators With Null-Space Compliance. IEEE Transactions on Robotics, 2014, 30, 493-506.	10.3	134

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19	A Grasping Force Optimization Algorithm for Multiarm Robots With Multifingered Hands. IEEE Transactions on Robotics, 2013, 29, 55-67.	10.3	33
20	Visual Grasp Planning for Unknown Objects Using a Multifingered Robotic Hand. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1050-1059.	5.8	91
21	Multi-fingered grasp synthesis based on the object dynamic properties. Robotics and Autonomous Systems, 2013, 61, 626-636.	5.1	12
22	Dynamic multi-priority control in redundant robotic systems. Robotica, 2013, 31, 1155-1167.	1.9	47
23	Grasp planning and parallel control of a redundant dual-arm/hand manipulation system. Robotica, 2013, 31, 1169-1194.	1.9	20
24	A grasping force optimization algorithm for dexterous robotic hands. , 2012, , .		12
25	Compliant hand-arm control with soft fingers and force sensing for human-robot interaction. , 2012, , .		3
26	Global Impedance Control of Dual-Arm Manipulation for Safe Interaction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 767-772.	0.4	12
27	Null-space impedance control with disturbance observer. , 2012, , .		22
28	Priority oriented adaptive control of kinematically redundant manipulators. , 2012, , .		8
29	Grasping and Control of Multi-Fingered Hands. Springer Tracts in Advanced Robotics, 2012, , 219-266.	0.4	15
30	Kinematic control with force feedback for a redundant bimanual manipulation system. , 2011, , .		6
31	A grasping force optimization algorithm with dynamic torque constraints selection for multi-fingered robotic hands. , 2011, , .		3
32	Multi-priority control in redundant robotic systems. , 2011, , .		15
33	Online dextrous-hand grasping force optimization with dynamic torque constraints selection. , 2011, , .		9
34	Multi-priority control in redundant robotic systems. , 2011, , .		4
35	Preshaped visual grasp of unknown objects with a multi-fingered hand. , 2010, , .		7
36	Fast multi-fingered grasp synthesis based on object dynamic properties. , 2010, , .		8

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37	A Framework for Force and Visual Control of Robot Manipulators. Springer Tracts in Advanced Robotics, 2010, , 373-382.	0.4	2
38	Force and Visual Control for Safe Human-Robot Interaction. Advances in Intelligent and Soft Computing, 2010, , 1-16.	0.2	1
39	Actuators fault diagnosis for robot manipulators with uncertain model. Control Engineering Practice, 2009, 17, 146-157.	5.5	63
40	Floating visual grasp of unknown objects. , 2009, , .		9
41	Human-aware Interaction Control of Robot Manipulators Based on Force and Vision. Lecture Notes in Control and Information Sciences, 2009, , 209-225.	1.0	1
42	A unified fuzzy logic approach to trajectory planning and inverse kinematics for a fire fighting robot operating in tunnels. Intelligent Service Robotics, 2008, 1, 41-49.	2.6	8
43	Interaction Control of Robot Manipulators Using Force and Vision. International Journal of Optomechatronics, 2008, 2, 257-274.	6.6	13
44	Six-DOF Impedance Control of Dual-Arm Cooperative Manipulators. IEEE/ASME Transactions on Mechatronics, 2008, 13, 576-586.	5.8	213
45	Adaptive Observer for Fault Diagnosis in Nonlinear Discrete-Time Systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2008, 130, .	1.6	44
46	A Position-Based Visual Impedance Control for Robot Manipulators. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	30
47	An open architecture for sensory feedback control of a dual-arm industrial robotic cell. Industrial Robot, 2007, 34, 46-53.	2.1	32
48	Position-Based Visual Servoing in Industrial Multirobot Cells Using a Hybrid Camera Configuration. , 2007, 23, 73-86.		130
49	An Experimental Investigation on Impedance Control for Dual-Arm Cooperative Systems. , 2007, , .		3
50	Robot force/position control with force and visual feedback. , 2007, , .		9
51	Adaptive extended Kalman filtering for visual motion estimation of 3D objects. Control Engineering Practice, 2007, 15, 123-134.	5.5	53
52	Human-Robot Interaction Control Using Force and Vision. Lecture Notes in Control and Information Sciences, 2007, , 51-70.	1.0	17
53	POSITION-BASED VISUAL SERVOING IN INDUSTRIAL MULTI-ARM ROBOTIC CELLS USING MULTIPLE CAMERAS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 43-48.	0.4	5
54	Robot Interaction Control Using Force and Vision. , 2006, , .		17

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55	A Singular Perturbation Approach to Control of Flexible Arms in Compliant Motion. , 2006, , 253-269.		0
56	VISUAL MOTION TRACKING WITH FULL ADAPTIVE EXTENDED KALMAN FILTER: AN EXPERIMENTAL STUDY. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 283-288.	0.4	3
57	Integration for the next generation. IEEE Robotics and Automation Magazine, 2005, 12, 53-64.	2.0	51
58	RePLiCS: an environment for open real-time control of a dual-arm industrial robotic cell based on RTAI-Linux. , 2005, , .		9
59	Fault diagnosis for AUVs using support vector machines. , 2004, , .		20
60	Inverse Kinematics with Fuzzy Redundancy Resolution for a Fire Fighting Robot. , 2004, , 283-292.		2
61	The Tricept robot: dynamics and impedance control. IEEE/ASME Transactions on Mechatronics, 2003, 8, 263-268.	5.8	96
62	Output Feedback Control of Mechanical Systems with Application to Spacecraft and Robots. Journal of Guidance, Control, and Dynamics, 2003, 26, 273-282.	2.8	7
63	Managing redundant visual measurements for accurate pose tracking. Robotica, 2003, 21, 511-519.	1.9	25
64	Fault Diagnosis for Industrial Robots. , 2003, , 85-108.		10
65	An inverse kinematics algorithm for interaction control of a flexible arm with a compliant surface. Control Engineering Practice, 2001, 9, 191-198.	5.5	32
66	Achieving a cooperative behavior in a dual-arm robot system via a modular control structure. Journal of Field Robotics, 2001, 18, 691-699.	0.7	13
67	Interaction Control. , 2001, , 121-154.		0
68	Parallel force and position control of flexible manipulators. IET Control Theory and Applications, 2000, 147, 605-612.	1.7	19
69	An experimental study of adaptive force/position control algorithms for an industrial robot. IEEE Transactions on Control Systems Technology, 2000, 8, 777-786.	5.2	23
70	Tracking control for underwater vehicle-manipulator systems with velocity estimation. IEEE Journal of Oceanic Engineering, 2000, 25, 399-413.	3.8	85
71	Quaternion-Based Impedance Control for Dual-Robot Cooperation. , 2000, , 59-66.		2
72	Robot Force Control. , 1999, , .		333

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73	Output feedback control for attitude tracking. <i>Systems and Control Letters</i> , 1999, 38, 91-98.	2.3	89
74	Six-DOF impedance control based on angle/axis representations. <i>IEEE Transactions on Automation Science and Engineering</i> , 1999, 15, 289-300.	2.3	168
75	Robot impedance control with nondiagonal stiffness. <i>IEEE Transactions on Automatic Control</i> , 1999, 44, 1943-1946.	5.7	19
76	An exponentially stable adaptive control for force and position tracking of robot manipulators. <i>IEEE Transactions on Automatic Control</i> , 1999, 44, 798-802.	5.7	72
77	A survey of robot interaction control schemes with experimental comparison. <i>IEEE/ASME Transactions on Mechatronics</i> , 1999, 4, 273-285.	5.8	192
78	THE ROLE OF EULER PARAMETERS IN ROBOT CONTROL. <i>Asian Journal of Control</i> , 1999, 1, 25-34.	3.0	41
79	Force and position tracking: parallel control with stiffness adaptation. <i>IEEE Control Systems</i> , 1998, 18, 27-33.	0.8	32
80	Quaternion-based impedance with nondiagonal stiffness for robot manipulators. , 1998, , .		14
81	Passivity-Based Interaction Controller and Observer for Robot Manipulators. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 1998, 120, 516-520.	1.6	2
82	Resolved-acceleration control of robot manipulators: A critical review with experiments. <i>Robotica</i> , 1998, 16, 565-573.	1.9	87
83	Sliding manifold approach to the control of rigid robots: Experimental results. <i>Control Engineering Practice</i> , 1997, 5, 619-625.	5.5	2
84	An output feedback parallel force/position regulator for a robot manipulator in contact with a compliant environment. <i>Systems and Control Letters</i> , 1997, 29, 295-300.	2.3	9
85	Design of parallel force/position controllers and observers for robot manipulators. , 1997, , .		1
86	Parallel Force/Position Control Schemes with Experiments on an Industrial Robot Manipulator. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 1996, 29, 25-30.	0.4	7
87	A passivity-based approach to force regulation and motion control of robot manipulators. <i>Automatica</i> , 1996, 32, 443-447.	5.0	55
88	Adaptive compliant control of robot manipulators. <i>Control Engineering Practice</i> , 1996, 4, 705-712.	5.5	39
89	A Lyapunov-Stable Adaptive Scheme for Force Regulation and Motion Control of Robot Manipulators. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 1995, 28, 227-232.	0.4	2
90	Lagrange and Newton-Euler dynamic modeling of a gear-driven robot manipulator with inclusion of motor inertia effects. <i>Advanced Robotics</i> , 1995, 10, 317-334.	1.8	32

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91	A LYAPUNOV-STABLE ADAPTIVE SCHEME FOR FORCE REGULATION AND MOTION CONTROL OF ROBOT MANIPULATORS. , 1995, , 227-232.		0
92	Force/position regulation of compliant robot manipulators. IEEE Transactions on Automatic Control, 1994, 39, 647-652.	5.7	113
93	An adaptive force/position regulator for robot manipulators. International Journal of Adaptive Control and Signal Processing, 1993, 7, 389-403.	4.1	20
94	Experiments of impedance control on an industrial robot manipulator with joint friction. , 0, , .		17
95	Position and orientation estimation based on Kalman filtering of stereo images. , 0, , .		25
96	Two-time scale force and position control of flexible manipulators. , 0, , .		10
97	Fuzzy Trajectory Planning and Redundancy Resolution for a Fire Fighting Robot Operating in Tunnels. , 0, , .		4
98	An Occlusion Prediction Algorithm for Visual Servoing Tasks in a Multi-Arm Robotic Cell. , 0, , .		7
99	A robotic system for fire fighting in tunnels. , 0, , .		4
100	3D pose estimation for robotic applications based on a multi-camera hybrid visual system. , 0, , .		12