

Paolo Fiorini

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

110
papers

2,531
citations

20
h-index

49
g-index

130
ext. papers

3,259
ext. citations

3.3
avg, IF

5.43
L-index

#	Paper	IF	Citations
110	PROST-Net: A deep learning approach to support real-time fusion in prostate biopsy. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2022 , 1-1	3.1	
109	Distortion and instability compensation with deep learning for rotational scanning endoscopic optical coherence tomography.. <i>Medical Image Analysis</i> , 2022 , 77, 102355	15.4	
108	3D Vision Based Robot Assisted Electrical Impedance Scanning for Soft Tissue Conductivity Sensing. <i>IEEE Robotics and Automation Letters</i> , 2022 , 1-1	4.2	0
107	Pre-Clinical Validation of a Semi-Autonomous Robot for Transperineal Prostate Biopsy. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2022 , 1-1	3.1	1
106	Thermal endoscope based on cost-effective LWIR camera cores.. <i>HardwareX</i> , 2022 , 11, e00300	2.7	
105	Robot assisted electrical impedance scanning for tissue bioimpedance spectroscopy measurement. <i>Measurement: Journal of the International Measurement Confederation</i> , 2022 , 111112	4.6	
104	Robot-Assisted Electrical Impedance Scanning system for 2D Electrical Impedance Tomography tissue inspection. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2021 , 2021, 3729-3733	0.9	
103	A Focus Control System Based on Varifocal Mirror for CO2 Fiber-Coupled Laser Surgery. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2021 , 1-1	3.1	1
102	Dynamic Movement Primitives: Volumetric Obstacle Avoidance Using Dynamic Potential Functions. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2021 , 101, 1	2.9	3
101	Automatic detection of procedural knowledge in robotic-assisted surgical texts. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2021 , 16, 1287-1295	3.9	0
100	Data-Driven Intra-Operative Estimation of Anatomical Attachments for Autonomous Tissue Dissection. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 1856-1863	4.2	4
99	Multi-task temporal convolutional networks for joint recognition of surgical phases and steps in gastric bypass procedures. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2021 , 16, 1111-1119	3.9	13
98	Inductive learning of answer set programs for autonomous surgical task planning. <i>Machine Learning</i> , 2021 , 110, 1739-1763	4	2
97	Toward autonomous robotic prostate biopsy: a pilot study. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2021 , 16, 1393-1401	3.9	7
96	Overcoming some drawbacks of Dynamic Movement Primitives. <i>Robotics and Autonomous Systems</i> , 2021 , 144, 103844	3.5	6
95	. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 8102-8109	4.2	0
94	Unsupervised Identification of Surgical Robotic Actions From Small Non-Homogeneous Datasets. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 8205-8212	4.2	1

93	Industrial Time Series Modeling With Causal Precursors and Separable Temporal Convolutions. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 6939-6946	4.2	1
92	Data Stream Stabilization for Optical Coherence Tomography Volumetric Scanning. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2021 , 1-1	3.1	
91	Intra-operative Update of Boundary Conditions for Patient-Specific Surgical Simulation. <i>Lecture Notes in Computer Science</i> , 2021 , 373-382	0.9	2
90	An electrical bioimpedance scanning system for subsurface tissue detection in Robot Assisted Minimally Invasive Surgery. <i>IEEE Transactions on Biomedical Engineering</i> , 2021 , PP,	5	6
89	Needle and Biopsy Robots: a Review. <i>Current Robotics Reports</i> , 2021 , 2, 73-84	3.5	7
88	Modelling of Surgical Procedures using Statecharts for Semi-Autonomous Robotic Surgery. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2021 , 1-1	3.1	1
87	A Time-of-Flight Stereoscopic Endoscope for Anatomical 3D Reconstruction 2021 ,		1
86	Autonomy in robotic prostate biopsy through AI-assisted fusion 2021 ,		1
85	Towards inductive learning of surgical task knowledge: a preliminary case study of the peg transfer task. <i>Procedia Computer Science</i> , 2020 , 176, 440-449	1.6	4
84	Biomechanical modelling of probe to tissue interaction during ultrasound scanning. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2020 , 15, 1379-1387	3.9	3
83	Guest Editorial Surgical Robotics: Clinical Challenges and Levels of Autonomy. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2020 , 2, 105-107	3.1	
82	Rigid 3D Registration of Pre-operative Information for Semi-Autonomous Surgery 2020 ,		2
81	Autonomous task planning and situation awareness in robotic surgery 2020 ,		7
80	Physics-Based Deep Neural Network for Real-Time Lesion Tracking in Ultrasound-Guided Breast Biopsy 2020 , 33-45		7
79	Design and Integration of Electrical Bio-Impedance Sensing in a Bipolar Forceps for Soft Tissue Identification: A Feasibility Study. <i>IFMBE Proceedings</i> , 2020 , 3-10	0.2	5
78	Causal interaction modeling on ultra-processed food manufacturing 2020 ,		1
77	Actuation Selection for Assistive Exoskeletons: Matching Capabilities to Task Requirements. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020 , 28, 2053-2062	4.8	2
76	Improving Rigid 3-D Calibration for Robotic Surgery. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2020 , 2, 569-573	3.1	11

75	Position-based modeling of lesion displacement in ultrasound-guided breast biopsy. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2019 , 14, 1329-1339	3.9	9
74	Surgical gesture recognition with time delay neural network based on kinematic data 2019 ,		7
73	Design and Integration of Electrical Bio-impedance Sensing in Surgical Robotic Tools for Tissue Identification and Display. <i>Frontiers in Robotics and AI</i> , 2019 , 6, 55	2.8	12
72	Double Deep Q-Network for Trajectory Generation of a Commercial 7DOF Redundant Manipulator 2019 ,		3
71	Introducing Series Elastic Links. <i>Biosystems and Biorobotics</i> , 2019 , 465-469	0.2	
70	Robotically assisted electrical bio-impedance measurements for soft tissue characterization: a feasibility study 2019 ,		4
69	An Auto-Focusing System for Endoscopic Laser Surgery based on a Hydraulic MEMS Varifocal Mirror 2019 ,		2
68	Automatic process modeling with time delay neural network based on low-level data.. <i>Procedia Manufacturing</i> , 2019 , 38, 125-132	1.5	2
67	Dynamic Movement Primitives: Volumetric Obstacle Avoidance 2019 ,		8
66	A knowledge-based framework for task automation in surgery 2019 ,		5
65	Introducing Series Elastic Links for Affordable Torque-Controlled Robots. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 137-144	4.2	3
64	Iterative simulations to estimate the elastic properties from a series of MRI images followed by MRI-US validation. <i>Medical and Biological Engineering and Computing</i> , 2019 , 57, 913-924	3.1	5
63	Stability analysis of the linear discrete teleoperation systems with stochastic sampling and data dropout. <i>European Journal of Control</i> , 2018 , 41, 63-71	2.5	8
62	A Rationale for Acceleration Feedback in Force Control of Series Elastic Actuators. <i>IEEE Transactions on Robotics</i> , 2018 , 34, 48-61	6.5	26
61	A Parallel-Elastic Actuator for a Torque-Controlled Back-Support Exoskeleton. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 492-499	4.2	43
60	Understanding Environment-Adaptive Force Control of Series Elastic Actuators. <i>IEEE/ASME Transactions on Mechatronics</i> , 2018 , 23, 413-423	5.5	19
59	Soft Robotic Manipulator for Improving Dexterity in Minimally Invasive Surgery. <i>Surgical Innovation</i> , 2018 , 25, 69-76	2	24
58	A flexible sensor for soft-bodied robots based on electrical impedance tomography 2018 ,		6

57	Formal Verification of Medical CPS. <i>ACM Transactions on Cyber-Physical Systems</i> , 2018 , 2, 1-29	2.3	1
56	Approaches for Action Sequence Representation in Robotics: A Review 2018 ,		3
55	Large-Stroke Varifocal Mirror with Hydraulic Actuation for Endoscopic Laser Surgery 2018 ,		1
54	Optimal Solution of Kinodynamic Motion Planning for the Cart-Pole System. <i>IFAC-PapersOnLine</i> , 2017 , 50, 6308-6313	0.7	
53	Impedance control of series elastic actuators: Passivity and acceleration-based control. <i>Mechatronics</i> , 2017 , 47, 37-48	3	43
52	Impedance control of series elastic actuators based on well-defined force dynamics. <i>Robotics and Autonomous Systems</i> , 2017 , 96, 81-92	3.5	20
51	Cost Effective Quality Assessment in Industrial Parts Manufacturing via Optical Acquisition. <i>Procedia Manufacturing</i> , 2017 , 11, 1207-1214	1.5	2
50	Deformable Surface Registration for Breast Tumors Tracking: A Phantom Study 2017 ,		1
49	Robust Real-Time Needle Tracking in 2-D Ultrasound Images Using Statistical Filtering. <i>IEEE Transactions on Control Systems Technology</i> , 2017 , 25, 966-978	4.8	13
48	Parametric formal verification: the robotic paint spraying case study. <i>IFAC-PapersOnLine</i> , 2017 , 50, 9248-9253	0.7	6
47	A Review of Algorithms for Compliant Control of Stiff and Fixed-Compliance Robots. <i>IEEE/ASME Transactions on Mechatronics</i> , 2016 , 21, 613-624	5.5	129
46	Interactive constrained dynamics for rigid and deformable objects. <i>Computer Animation and Virtual Worlds</i> , 2016 , 27, 151-162	0.9	1
45	A Cognitive Robot Control Architecture for Autonomous Execution of Surgical Tasks. <i>Journal of Medical Robotics Research</i> , 2016 , 01, 1650008	1.1	13
44	A Deformable Smart Skin for Continuous Sensing Based on Electrical Impedance Tomography. <i>Sensors</i> , 2016 , 16,	3.8	25
43	A unified representation to interact with simulated deformable objects in virtual environments 2016 ,		3
42	Cutaneous feedback in teleoperated robotic hands 2016 ,		4
41	Formal verification of robotic surgery tasks by reachability analysis. <i>Microprocessors and Microsystems</i> , 2015 , 39, 836-842	2.4	7
40	. <i>IEEE Transactions on Robotics</i> , 2015 , 31, 1073-1088	6.5	95

39	Generalized Shapes and Point Sets Correspondence and Registration. <i>Journal of Mathematical Imaging and Vision</i> , 2015 , 52, 218-233	1.6	5
38	Current Capabilities and Development Potential in Surgical Robotics. <i>International Journal of Advanced Robotic Systems</i> , 2015 , 12, 61	1.4	60
37	Development of a Cognitive Robotic System for Simple Surgical Tasks. <i>International Journal of Advanced Robotic Systems</i> , 2015 , 12, 37	1.4	26
36	BIPCO: ultrasound feature points based on phase congruency detector and binary pattern descriptor. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2015 , 10, 843-54	3.9	1
35	The Achievements of Antal [In Memoriam]. <i>IEEE Robotics and Automation Magazine</i> , 2015 , 22, 180-181	3.4	
34	A two-layer approach for shared control in semi-autonomous robotic surgery 2015 ,		3
33	A SystemC/MATLAB Co-simulation Tool for Networked Control Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2015 , 283-290	0.5	
32	Application of contract-based verification techniques for hybrid automata to surgical robotic systems 2014 ,		2
31	Robust Force Control of Series Elastic Actuators. <i>Actuators</i> , 2014 , 3, 182-204	2.4	35
30	Human-adaptive control of series elastic actuators. <i>Robotica</i> , 2014 , 32, 1301-1316	2.1	40
29	FILOSE for Svenning: A Flow Sensing Bioinspired Robot. <i>IEEE Robotics and Automation Magazine</i> , 2014 , 21, 51-62	3.4	44
28	Model predictive control over delay-based differentiated services control networks 2013 ,		1
27	Service robotics (the rise and bloom of service robots) [tc spotlight]. <i>IEEE Robotics and Automation Magazine</i> , 2013 , 20, 22-24	3.4	13
26	Real-time biopsy needle tip estimation in 2D ultrasound images 2013 ,		10
25	A SystemC/Matlab co-simulation tool for networked control systems. <i>Simulation Modelling Practice and Theory</i> , 2012 , 23, 71-86	3.9	20
24	A PLS-Based Statistical Approach for Fault Detection and Isolation of Robotic Manipulators. <i>IEEE Transactions on Industrial Electronics</i> , 2012 , 59, 3167-3175	8.9	136
23	Towards automated surgical robotics: A requirements engineering approach 2012 ,		19
22	The role of visual-haptic discrepancy in virtual reality environments 2012 ,		3

21	Predictive control of networked control systems over differentiated services lossy networks 2012 ,		3
20	Special Issue on Surgical Robotics. <i>Applied Bionics and Biomechanics</i> , 2011 , 8, 149-150	1.6	
19	Integration of New Features for Telerobotic Surgery into The Mirosurge System. <i>Applied Bionics and Biomechanics</i> , 2011 , 8, 253-265	1.6	6
18	Robotic Surgery. <i>IEEE Robotics and Automation Magazine</i> , 2011 , 18, 24-32	3.4	27
17	Switching control approach for stable navigation of mobile robots in unknown environments. <i>Robotics and Computer-Integrated Manufacturing</i> , 2011 , 27, 558-568	9.2	21
16	GPU-based physical cut in interactive haptic simulations. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2011 , 6, 265-72	3.9	11
15	Trajectory planning with task constraints in densely filled environments 2010 ,		9
14	Statistical methods for estimating the dynamical parameters of manipulators 2009 ,		4
13	Introducing service robotics to the pharmaceutical industry. <i>Intelligent Service Robotics</i> , 2008 , 1, 267-280	2.6	11
12	Calibration of mass spring models for organ simulations 2007 ,		12
11	FPGA-based Controller for Haptic Devices 2006 ,		6
10	Formulation of a local model for simulation of hepatic laparoscopic procedures. <i>International Congress Series</i> , 2005 , 1281, 762-767		
9	Localization and Sensing for Hopping Robots. <i>Autonomous Robots</i> , 2005 , 18, 185-200	3	14
8	The Development of Hopping Capabilities for Small Robots. <i>Autonomous Robots</i> , 2003 , 14, 239-254	3	61
7	Cleaning and Household Robots: A Technology Survey. <i>Autonomous Robots</i> , 2000 , 9, 227-235	3	18
6	A Short History of Cleaning Robots. <i>Autonomous Robots</i> , 2000 , 9, 211-226	3	84
5	A Workcell for the Development of Robot-Assisted Surgical Procedures. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2000 , 28, 301-324	2.9	1
4	A Design and Control Environment for Internet-Based Telerobotics. <i>International Journal of Robotics Research</i> , 1998 , 17, 433-449	5.7	121

3	Motion Planning in Dynamic Environments Using Velocity Obstacles. <i>International Journal of Robotics Research</i> , 1998 , 17, 760-772	5.7	923
2	Neural Networks for the Segmentation of Teleoperation Tasks. <i>Presence: Teleoperators and Virtual Environments</i> , 1993 , 2, 54-65	2.9	3
1	Industry 4.0 and prospects of circular economy: a survey of robotic assembly and disassembly. <i>International Journal of Advanced Manufacturing Technology</i> , 1	3.2	1