

# Leonardo S Mattos

## List of Publications by Year in descending order

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Version: 2024-02-01

130  
papers

1,914  
citations

331670

21  
h-index

345221

36  
g-index

133  
all docs

133  
docs citations

133  
times ranked

1900  
citing authors

#	ARTICLE	IF	CITATIONS
1	Deep Learning Applied to White Light and Narrow Band Imaging Videolaryngoscopy: Toward Real-time Laryngeal Cancer Detection. <i>Laryngoscope</i> , 2022, 132, 1798-1806.	2.0	52
2	Real-time vessel segmentation and reconstruction for virtual fixtures for an active handheld microneurosurgical instrument. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022, 17, 1069-1077.	2.8	4
3	EMG-driven control in lower limb prostheses: a topic-based systematic review. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2022, 19, 43.	4.6	23
4	Efficacy of High-Resolution Preoperative 3D Reconstructions for Lesion Localization in Oncological Colorectal Surgery—First Pilot Study. <i>Healthcare (Switzerland)</i> , 2022, 10, 900.	2.0	4
5	NephCNN: A deep-learning framework for vessel segmentation in nephrectomy laparoscopic videos. , 2021, , .		4
6	Vision-Guided Autonomous Robotic Electrical Bio-Impedance Scanning System for Abnormal Tissue Detection. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2021, 3, 866-877.	3.2	8
7	Deep Learning for Automatic Segmentation of Oral and Oropharyngeal Cancer Using Narrow Band Imaging: Preliminary Experience in a Clinical Perspective. <i>Frontiers in Oncology</i> , 2021, 11, 626602.	2.8	37
8	ICAR 2019 Special Issue. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2021, 102, 1.	3.4	0
9	¼RALP and Beyond: Micro-Technologies and Systems for Robot-Assisted Endoscopic Laser Microsurgery. <i>Frontiers in Robotics and AI</i> , 2021, 8, 664655.	3.2	16
10	Transoral laser microsurgery: feasibility of a new exoscopic HD-3D system coupled with free beam or fiber laser. <i>Lasers in Medical Science</i> , 2021, 36, 1865-1872.	2.1	15
11	A Focus Control System Based on Varifocal Mirror for CO <sub>2</sub> Fiber-Coupled Laser Surgery. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2021, 3, 878-887.	3.2	2
12	Editorial: Novel Actuators, Sensors and Control Systems for Endoscopic Robots. <i>Frontiers in Robotics and AI</i> , 2021, 8, 797467.	3.2	1
13	Designing and Testing a Closed-loop Magnetically Actuated Laser Scanning System for Tissue Ablation. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2021, , .	0.7	0
14	Towards a Compact Vision-based Auto-Focusing System for Endoscopic Laser Surgery. , 2021, , .		0
15	Enhanced Vision to Improve Safety in Robotic Surgery. , 2020, , 223-237.		3
16	Inter-foetus Membrane Segmentation for TTTS Using Adversarial Networks. <i>Annals of Biomedical Engineering</i> , 2020, 48, 848-859.	2.5	20
17	Hybrid Machine Learning-Neuromusculoskeletal Modeling for Control of Lower Limb Prosthetics. , 2020, , .		13
18	Operating From a Distance: Robotic Vocal Cord 5G Telesurgery on a Cadaver. <i>Annals of Internal Medicine</i> , 2020, 173, 940-941.	3.9	24

#	ARTICLE	IF	CITATIONS
19	Toward Emotion Recognition From Physiological Signals in the Wild: Approaching the Methodological Issues in Real-Life Data Collection. <i>Frontiers in Psychology</i> , 2020, 11, 1111.	2.1	57
20	The <sc>GPS</sc> for surgery: A user-centered evaluation of a navigation system for laparoscopic surgery. <i>International Journal of Medical Robotics and Computer Assisted Surgery</i> , 2020, 16, 1-13.	2.3	6
21	SmartProbe: a bioimpedance sensing system for head and neck cancer tissue detection. <i>Physiological Measurement</i> , 2020, 41, 054003.	2.1	24
22	Microscale Precision Control of a Computer-Assisted Transoral Laser Microsurgery System. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020, 25, 604-615.	5.8	15
23	Transfer learning for informative-frame selection in laryngoscopic videos through learned features. <i>Medical and Biological Engineering and Computing</i> , 2020, 58, 1225-1238.	2.8	27
24	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.	0.3	6
25	5G Robotic Telesurgery: Remote Transoral Laser Microsurgeries on a Cadaver. <i>IEEE Transactions on Medical Robotics and Bionics</i> , 2020, 2, 511-518.	3.2	28
26	Affective Communication Enhancement System for Locked-In Syndrome Patients. <i>Lecture Notes in Computer Science</i> , 2020, , 143-156.	1.3	0
27	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.	3.2	20
28	Appraisal theory-based mobile app for physiological data collection and labelling in the wild. , 2019, , .		19
29	A Hand-Held Robot for Precise and Safe PIVC. <i>IEEE Robotics and Automation Letters</i> , 2019, 4, 655-661.	5.1	12
30	Design and Control of a Magnetic Laser Scanner for Endoscopic Microsurgeries. <i>IEEE/ASME Transactions on Mechatronics</i> , 2019, 24, 527-537.	5.8	29
31	Design and Modeling of a Three-Degree-of-Freedom Articulating Robotic Microsurgical Forceps for Trans-Oral Laser Microsurgery. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2019, 13, .	0.7	8
32	Hybrid Visual Servoing for Autonomous Robotic Laser Tattoo Removal. , 2019, , .		2
33	The CALM System: New Generation Computer-Assisted Laser Microsurgery. , 2019, , .		3
34	An Auto-Focusing System for Endoscopic Laser Surgery based on a Hydraulic MEMS Varifocal Mirror. , 2019, , .		4
35	Design and Evaluation of an Open-source Gaze-controlled GUI for Web-browsing. , 2019, , .		1
36	Closed-Loop Control of a Magnetically Actuated Fiber-Coupled Laser for Computer-Assisted Laser Microsurgery. , 2019, , .		3

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37	Towards a Virtual Reality Interface for Remote Robotic Teleoperation. , 2019, , .		19
38	Towards Sound-source Position Estimation using Mutual Information for Next Best View Motion Planning. , 2019, , .		0
39	A robotic microsurgical forceps for transoral laser microsurgery. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 321-333.	2.8	7
40	FCNN-based axon segmentation for convection-enhanced delivery optimization. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 493-499.	2.8	6
41	Robotically assisted electrical bio-impedance measurements for soft tissue characterization: a feasibility study. , 2019, , .		5
42	Uncertainty-Aware Organ Classification for Surgical Data Science Applications in Laparoscopy. IEEE Transactions on Biomedical Engineering, 2018, 65, 2649-2659.	4.2	37
43	A New Venous Entry Detection Method Based on Electrical Bio-impedance Sensing. Annals of Biomedical Engineering, 2018, 46, 1558-1567.	2.5	24
44	Haptic Feedback for Control and Active Constraints in Contactless Laser Surgery: Concept, Implementation, and Evaluation. IEEE Transactions on Haptics, 2018, 11, 241-254.	2.7	15
45	Learning-based classification of informative laryngoscopic frames. Computer Methods and Programs in Biomedicine, 2018, 158, 21-30.	4.7	39
46	A Handheld Robot for Pediatric PIVC: Device Design and Preclinical Trial. Journal of Medical Robotics Research, 2018, 03, 1840003.	1.2	2
47	Blood vessel segmentation algorithms – Review of methods, datasets and evaluation metrics. Computer Methods and Programs in Biomedicine, 2018, 158, 71-91.	4.7	369
48	Towards a Magnetically-Actuated Laser Scanner for Endoscopic Microsurgeries. Journal of Medical Robotics Research, 2018, 03, 1840004.	1.2	16
49	Long Term Safety Area Tracking (LT-SAT) with online failure detection and recovery for robotic minimally invasive surgery. Medical Image Analysis, 2018, 45, 13-23.	11.6	15
50	SDOP: A smart handheld device for over puncture prevention during pediatric peripheral intravenous catheterization. , 2018, , .		2
51	Design and Fabrication of a Hydraulic Deformable Membrane Mirror for High-Power Laser Focusing. , 2018, , .		1
52	Gaze-controlled Laser Pointer Platform for People with Severe Motor Impairments: Preliminary Test in Telepresence. , 2018, 2018, 1813-1816.		2
53	Assessing the Role of Teleoperated Robotic Systems in Biomanipulations - A Case Study on Blastocyst Microinjection. , 2018, 2018, 1857-1860.		0
54	Non-Contact Tissue Ablations with High-Speed Laser Scanning in Endoscopic Laser Microsurgery. , 2018, 2018, 3660-3663.		7

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55	Effect of a Click-Like Feedback on Motor Imagery in EEG-BCI and Eye-Tracking Hybrid Control for Telepresence. , 2018, , .		4
56	Large-Stroke Varifocal Mirror with Hydraulic Actuation for Endoscopic Laser Surgery. , 2018, , .		1
57	Human in the Loop of Robot Learning: EEG-Based Reward Signal for Target Identification and Reaching Task. , 2018, , .		11
58	Computer-assisted liver graft steatosis assessment via learning-based texture analysis. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 1357-1367.	2.8	29
59	Design and Study of a Next-Generation Computer-Assisted System for Transoral Laser Microsurgery. OTO Open, 2018, 2, 2473974X1877332.	1.4	12
60	EndoAbS dataset: Endoscopic abdominal stereo image dataset for benchmarking 3D stereo reconstruction algorithms. International Journal of Medical Robotics and Computer Assisted Surgery, 2018, 14, e1926.	2.3	20
61	Toward Improving Safety in Neurosurgery with an Active Handheld Instrument. Annals of Biomedical Engineering, 2018, 46, 1450-1464.	2.5	29
62	Formal Verification of Medical CPS. ACM Transactions on Cyber-Physical Systems, 2018, 2, 1-29.	2.5	3
63	Safe electrode trajectory planning in SEEG via MIP-based vessel segmentation. , 2017, , .		2
64	A hand-held robotic device for peripheral intravenous catheterization. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2017, 231, 1165-1177.	1.8	20
65	A bioimpedance sensing system for in-vivo cancer tissue identification: Design and preliminary evaluation. , 2017, 2017, 4235-4238.		3
66	Laser Incision Depth Control in Robot-Assisted Soft Tissue Microsurgery. Journal of Medical Robotics Research, 2017, 02, 1740006.	1.2	11
67	Soft brain-machine interfaces for assistive robotics: A novel control approach. , 2017, 2017, 863-869.		7
68	Magnetic laser scanner for endoscopic microsurgery. , 2017, , .		10
69	Design and control of a novel robotic microsurgical forceps for Transoral Laser Microsurgery. , 2017, , .		4
70	Effects of galvanic skin response feedback on user experience in gaze-controlled gaming: A pilot study. , 2017, 2017, 2458-2461.		11
71	Does tactile feedback enhance single-trial detection of error-related eeg potentials?. , 2017, , .		9
72	EnViSoRS: Enhanced Vision System for Robotic Surgery. A User-Defined Safety Volume Tracking to Minimize the Risk of Intraoperative Bleeding. Frontiers in Robotics and AI, 2017, 4, .	3.2	13

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73	Confident texture-based laryngeal tissue classification for early stage diagnosis support. Journal of Medical Imaging, 2017, 4, 1.	1.5	51
74	Novel modular 2-DOF microsurgical forceps for transoral laser microsurgeries: Ergonomic design and preliminary evaluation. , 2016, 2016, 5216-5219.		0
75	Mutual information-based feature selection for low-cost BCIs based on motor imagery. , 2016, 2016, 2772-2775.		7
76	Robot-Assisted System for Free-Beam Transoral Laser Microsurgery. IFMBE Proceedings, 2016, , 720-725.	0.3	0
77	Design and modeling of novel modular 2 DOF microsurgical forceps for transoral laser microsurgeries. , 2016, , .		0
78	Online estimation of laser incision depth for transoral microsurgery: approach and preliminary evaluation. International Journal of Medical Robotics and Computer Assisted Surgery, 2016, 12, 53-61.	2.3	14
79	Automatic workflow for narrow-band laryngeal video stitching. , 2016, 2016, 1188-1191.		8
80	Robot-assisted microsurgical forceps with haptic feedback for transoral laser microsurgery. , 2016, 2016, 5156-5159.		6
81	A venipuncture detection system for robot-assisted intravenous catheterization. , 2016, , .		6
82	Focus-sensitive dwell time in EyeBCI: Pilot study. , 2016, , .		6
83	Kinesthetic and vibrotactile haptic feedback improves the performance of laser microsurgery. , 2016, , .		12
84	Laryngeal Tumor Detection and Classification in Endoscopic Video. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 322-332.	6.3	34
85	Dense soft tissue 3D reconstruction refined with super-pixel segmentation for robotic abdominal surgery. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 197-206.	2.8	31
86	Microsurgery robots: addressing the needs of high-precision surgical interventions. Swiss Medical Weekly, 2016, 146, w14375.	1.6	19
87	BCI-based user training in surgical robotics. , 2015, 2015, 4918-21.		6
88	New motorized micromanipulator for robot-assisted laser phonomicrosurgery. , 2015, , .		5
89	Feed forward incision control for laser microsurgery of soft tissue. , 2015, , .		8
90	Brain-Controlled AR Feedback Design for User's Training in Surgical HRI. , 2015, , .		15

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91	Modelling needle forces during insertion into soft tissue. , 2015, 2015, 4840-4.		1
92	Comparison of tablet-based strategies for incision planning in laser microsurgery. , 2015, , .		2
93	Learning Temperature Dynamics on Agar-Based Phantom Tissue Surface During Single Point CO $_{2}$ Laser Exposure. Neural Processing Letters, 2015, 42, 55-70.	3.2	9
94	A vision-based system for fast and accurate laser scanning in robot-assisted phonomicrosurgery. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 217-229.	2.8	15
95	Microsurgery Systems. , 2015, , 61-89.		0
96	Enhanced computer-assisted laser microsurgeries with a &#x201C;virtual microscope&#x201D; based surgical system. , 2014, , .		16
97	Thermal supervision during robotic laser microsurgery. , 2014, , .		3
98	Workshop on robotic microsurgery and image-guided surgical interventions. , 2014, , .		0
99	A novel computerized surgeon&#x201C;machine interface for robot&#x201C;assisted laser phonomicrosurgery. Laryngoscope, 2014, 124, 1887-1894.	2.0	58
100	A Fully Automated System for Adherent Cells Microinjection. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 83-93.	6.3	45
101	A visual targeting system for the microinjection of unstained adherent cells. Computers in Biology and Medicine, 2013, 43, 109-120.	7.0	6
102	Supervisory system for robot assisted laser phonomicrosurgery. , 2013, 2013, 4839-42.		3
103	Imaging based metrics for performance assessment in laser phonomicrosurgery. , 2013, , .		12
104	Comparative usability and performance evaluation of surgeon interfaces in laser phonomicrosurgery. , 2013, , .		11
105	Capillary Pressure Control System for Teleoperated and Automatic Biomanipulations. IFMBE Proceedings, 2013, , 902-905.	0.3	1
106	Modeling Tissue Temperature Dynamics during Laser Exposure. Lecture Notes in Computer Science, 2013, , 96-106.	1.3	7
107	Smart devices in robot-assisted laser microsurgery: Towards ubiquitous tele-cooperation. , 2012, , .		4
108	New software tools for enhanced precision in robot-assisted laser phonomicrosurgery. , 2012, 2012, 2804-7.		9

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109	Safe teleoperation based on flexible intraoperative planning for robot-assisted laser microsurgery. , 2012, 2012, 174-8.		5
110	A novel framework for automated targeting of unstained living cells in bright field microscopy. , 2011, , .		8
111	A virtual scalpel system for computer-assisted laser microsurgery. , 2011, , .		23
112	Comparative evaluation of user interfaces for robot-assisted laser phonomicrosurgery. , 2011, 2011, 7376-9.		5
113	Next-generation micromanipulator for computer-assisted laser phonomicrosurgery. , 2011, 2011, 4555-9.		17
114	A virtual scalpel system for computer-assisted laser microsurgery. , 2011, , .		1
115	Design and control of a robotic system for assistive laser phonomicrosurgery. , 2010, 2010, 5411-5.		10
116	Anisotropic Contour Completion for Cell Microinjection Targeting. , 2010, , .		4
117	Diffusion tensor driven contour closing for cell microinjection targeting. , 2010, 2010, 4072-5.		4
118	A Mixed-Reality Training System for Teleoperated Biomanipulations. , 2010, , .		2
119	Experiments with a teleoperated system for improved bio-micromanipulations. , 2010, , .		3
120	Blastocyst Microinjection Automation. IEEE Transactions on Information Technology in Biomedicine, 2009, 13, 822-831.	3.2	42
121	A fast and precise micropipette positioning system based on continuous camera-robot recalibration and visual servoing. , 2009, , .		19
122	Interface Design for MicroBiomanipulation and Teleoperation. , 2009, , .		5
123	From teleoperated to automatic blastocyst microinjections: Designing a new system from expert-controlled operations. , 2008, , .		4
124	New Developments Towards Automated Blastocyst Microinjections. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	25
125	Speeding Up Video Processing for Blastocyst Microinjection. , 2006, , .		11
126	Developing portable acoustic arrays on a large-scale textile substrate. International Journal of Clothing Science and Technology, 2004, 16, 73-83.	1.1	4



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127	Transference of Evolved Unmanned Aerial Vehicle Controllers to a Wheeled Mobile Robot. , 0, , .		2
128	Semi-automated blastocyst microinjection. , 0, , .		18
129	A hand-held robot for safe and automatic PIVC. , 0, , .		0
130	Videomics of the Upper Aero-Digestive Tract Cancer: Deep Learning Applied to White Light and Narrow Band Imaging for Automatic Segmentation of Endoscopic Images. Frontiers in Oncology, 0, 12, .	2.8	17