Claudio Castellini

List of Publications by Year
in descending order

106	4,124	185998 28	143772 57
papers	citations	h-index	g-index

111	111	111	2877
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Electromyography data for non-invasive naturally-controlled robotic hand prostheses. Scientific Data, 2014, 1, 140053.	2.4	482
2	Surface EMG in advanced hand prosthetics. Biological Cybernetics, 2009, 100, 35-47.	0.6	356
3	Characterization of a Benchmark Database for Myoelectric Movement Classification. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 73-83.	2.7	193
4	Hand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial hands. Physics of Life Reviews, 2016, 17, 1-23.	1.5	191
5	Building the Ninapro database: A resource for the biorobotics community. , 2012, , .		161
6	Movement Error Rate for Evaluation of Machine Learning Methods for sEMG-Based Hand Movement Classification. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 735-744.	2.7	149
7	Fine detection of grasp force and posture by amputees via surface electromyography. Journal of Physiology (Paris), 2009, 103, 255-262.	2.1	139
8	Multi-subject/daily-life activity EMG-based control of mechanical hands. Journal of NeuroEngineering and Rehabilitation, 2009, 6, 41.	2.4	112
9	Using Ultrasound Images of the Forearm to Predict Finger Positions. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 788-797.	2.7	109
10	Stable myoelectric control of a hand prosthesis using non-linear incremental learning. Frontiers in Neurorobotics, 2014, 8, 8.	1.6	104
11	A Humanâ€“Robot Interaction Perspective on Assistive and Rehabilitation Robotics. Frontiers in Neurorobotics, 2017, 11, 24.	1.6	102
12	A Comparative Analysis of Three Non-Invasive Human-Machine Interfaces for the Disabled. Frontiers in Neurorobotics, 2014, 8, 24.	1.6	89
13	Trajectory planning for optimal robot catching in real-time. , 2011, , .		79
14	A dataset of continuous affect annotations and physiological signals for emotion analysis. Scientific Data, 2019, 6, 196.	2.4	79
15	EMG-based teleoperation and manipulation with the DLR LWR-III. , 2011, , .		73
16	Improving Control of Dexterous Hand Prostheses Using Adaptive Learning. IEEE Transactions on Robotics, 2013, 29, 207-219.	7.3	70
17	Assessment of a Wearable Force- and Electromyography Device and Comparison of the Related Signals for Myocontrol. Frontiers in Neurorobotics, 2016, 10, 17.	1.6	64
18	Using Object Affordances to Improve Object Recognition. IEEE Transactions on Autonomous Mental Development, 2011, 3, 207-215.	2.3	60

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19	Evidence of muscle synergies during human grasping. Biological Cybernetics, 2013, 107, 233-245.	0.6	58
20	A realistic implementation of ultrasound imaging as a human-machine interface for upper-limb amputees. Frontiers in Neurorobotics, 2013, 7, 17.	1.6	58
21	On-line independent support vector machines. Pattern Recognition, 2010, 43, 1402-1412.	5.1	57
22	Model adaptation with least-squares SVM for adaptive hand prosthetics. , 2009, , .		54
23	SAT-based planning in complex domains: Concurrency, constraints and nondeterminism. Artificial Intelligence, 2003, 147, 85-117.	3.9	52
24	Robotic interfaces for cognitive psychology and embodiment research: A research roadmap. Wiley Interdisciplinary Reviews: Cognitive Science, 2019, 10, e1486.	1.4	52
25	Feel-Good Robotics: Requirements on Touch for Embodiment in Assistive Robotics. Frontiers in Neurorobotics, 2018, 12, 84.	1.6	50
26	Effect of clinical parameters on the control of myoelectric robotic prosthetic hands. Journal of Rehabilitation Research and Development, 2016, 53, 345-358.	1.6	49
27	SAT-Based Procedures for Temporal Reasoning. Lecture Notes in Computer Science, 2000, , 97-108.	1.0	46
28	A wearable low-cost device based upon Force-Sensing Resistors to detect single-finger forces. , 2014, , .		39
29	Multichannel electrotactile feedback for simultaneous and proportional myoelectric control. Journal of Neural Engineering, 2016, 13, 056015.	1.8	39
30	Low-cost wearable multichannel surface EMG acquisition for prosthetic hand control. , 2015, , .		38
31	VITAâ€"an everyday virtual reality setup for prosthetics and upper-limb rehabilitation. Journal of Neural Engineering, 2019, 16, 026039.	1.8	38
32	Surface EMG for force control of mechanical hands. , 2008, , .		37
33	Online Bimanual Manipulation Using Surface Electromyography and Incremental Learning. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 227-234.	2.7	37
34	A SAT-Based Decision Procedure for the Boolean Combination of Difference Constraints. Lecture Notes in Computer Science, 2005, , 16-29.	1.0	29
35	A Classification Method for Myoelectric Control of Hand Prostheses Inspired by Muscle Coordination. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 1745-1755.	2.7	28
36	Continuous, Real-Time Emotion Annotation: A Novel Joystick-Based Analysis Framework. IEEE Transactions on Affective Computing, 2020, 11, 78-84.	5.7	25

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37	Upper-Limb Prosthetic Myocontrol: Two Recommendations. Frontiers in Neuroscience, 2015, 9, 496.	1.4	24
38	EMG-Driven Machine Learning Control of a Soft Glove for Grasping Assistance and Rehabilitation. IEEE Robotics and Automation Letters, 2022, 7, 1566-1573.	3.3	24
39	The LET Procedure for Prosthetic Myocontrol: Towards Multi-DOF Control Using Single-DOF Activations. PLoS ONE, 2016, 11, e0161678.	1.1	23
40	Ultrasound image features of the wrist are linearly related to finger positions. , 2011, , .		22
41	FFLS: An accurate linear device for measuring synergistic finger contractions. , 2012, 2012, 531-4.		21
42	Ultrasound imaging as a human-machine interface in a realistic scenario. , 2013, , .		19
43	Optical Myography: Detecting Finger Movements by Looking at the Forearm. Frontiers in Neurorobotics, 2016, 10, 3.	1.6	19
44	Indoor Place Recognition using Online Independent Support Vector Machines. , 2007, , .		18
45	Using surface electromyography to predict single finger forces. , 2012, , .		16
46	Ultrasound imaging for hand prosthesis control: a comparative study of features and classification methods. , 2015, , .		16
47	Exploiting Knowledge Composition to Improve Real-Life Hand Prosthetic Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 967-975.	2.7	16
48	Using a high spatial resolution tactile sensor for intention detection. , 2013, 2013, 6650365.		15
49	Shape conformable high spatial resolution tactile bracelet for detecting hand and wrist activity. , 2015, , .		15
50	Towards a synergy framework across neuroscience and robotics: Lessons learned and open questions. Reply to comments on: â€œHand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial handsâ€• Physics of Life Reviews, 2016, 17, 54-60.	1.5	13
51	Upper Limb Active Prosthetic systemsâ€”Overview. , 2020, , 365-376.		13
52	Action interference in simultaneous and proportional myocontrol: comparing force- and electromyography. Journal of Neural Engineering, 2020, 17, 026011.	1.8	13
53	Context-dependent adaptation improves robustness of myoelectric control for upper-limb prostheses. Journal of Neural Engineering, 2017, 14, 056016.	1.8	12
54	Human-In-The-Loop Assessment of an Ultralight, Low-Cost Body Posture Tracking Device. Sensors, 2020, 20, 890.	2.1	12

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55	The Use of Phonetic Motor Invariants Can Improve Automatic Phoneme Discrimination. PLoS ONE, 2011, 6, e24055.	1.1	11
56	Multi-modal myocontrol: Testing combined force- and electromyography. , 2017, 2017, 1364-1368.		11
57	Tactile Myography: An Off-Line Assessment of Able-Bodied Subjects and One Upper-Limb Amputee. Technologies, 2018, 6, 38.	3.0	11
58	The Merits of Dynamic Data Acquisition for Realistic Myocontrol. Frontiers in Bioengineering and Biotechnology, 2020, 8, 361.	2.0	11
59	The Grasp Perturbator: Calibrating human grasp stiffness during a graded force task. , 2011, , .		10
60	OMG: Introducing optical myography as a new human machine interface for hand amputees. , 2015, , .		10
61	Online Natural Myocontrol of Combined Hand and Wrist Actions Using Tactile Myography and the Biomechanics of Grasping. Frontiers in Neurorobotics, 2020, 14, 11.	1.6	10
62	Experimental evaluation of human grasps using a sensorized object. , 2012, , .		9
63	Evaluating subsampling strategies for sEMG-based prediction of voluntary muscle contractions. , 2013, , .		9
64	Improving Reliability of Myocontrol Using Formal Verification. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 564-571.	2.7	9
65	TSAT++: an Open Platform for Satisfiability Modulo Theories. Electronic Notes in Theoretical Computer Science, 2005, 125, 25-36.	0.9	8
66	Internal models of reaching and grasping. Advanced Robotics, 2007, 21, 1545-1564.	1.1	8
67	A virtual piano-playing environment for rehabilitation based upon ultrasound imaging. , 2014, , .		8
68	Combining Electromyography and Tactile Myography to Improve Hand and Wrist Activity Detection in Prostheses. Technologies, 2017, 5, 64.	3.0	8
69	State of the Art and Perspectives of Ultrasound Imaging as a Human-Machine Interface. Trends in Augmentation of Human Performance, 2014, , 37-58.	0.4	8
70	sEMG-based estimation of human stiffness: Towards impedance-controlled rehabilitation. , 2014, , .		6
71	Wrist and grasp myocontrol: Online validation in a goal-reaching task. , 2016, , .		6
72	Mechatronic designs for a robotic hand to explore human body experience and sensory-motor skills: a Delphi study. Advanced Robotics, 2018, 32, 670-680.	1.1	6

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73	Automated Instability Detection for Interactive Myocontrol of Prosthetic Hands. Frontiers in Neurorobotics, 2019, 13, 68.	1.6	6
74	Embodiment-specific representation of robot grasping using graphical models and latent-space discretization. , 2011, , .		6
75	Incremental Learning of Muscle Synergies: From Calibration to Interaction. Springer Series on Touch and Haptic Systems, 2016, , 171-193.	0.2	5
76	Repairing Learned Controllers with Convex Optimization: A Case Study. Lecture Notes in Computer Science, 2019, , 364-373.	1.0	5
77	A functional data analysis approach for continuous 2-D emotion annotations. Web Intelligence, 2019, 17, 41-52.	0.1	5
78	Software Model Checking Using Linear Constraints. Lecture Notes in Computer Science, 2004, , 209-223.	1.0	5
79	Preliminary evidence of dynamic muscular synergies in human grasping. , 2011, , .		4
80	Ultrasound image features of the wrist are linearly related to finger positions. , 2011, , .		4
81	Wrist and grasp myocontrol: Simplifying the training phase. , 2015, , .		4
82	Natural Myocontrol in a Realistic Setting: a Comparison Between Static and Dynamic Data Acquisition. , 2019, 2019, 1061-1066.		4
83	SAT-Based Decision Procedures for Automated Reasoning: A Unifying Perspective. Lecture Notes in Computer Science, 2005, , 46-58.	1.0	4
84	Feedback-aided data acquisition improves myoelectric control of a prosthetic hand. Journal of Neural Engineering, 2020, 17, 056047.	1.8	4
85	Automatic Detection of Myocontrol Failures Based upon Situational Context Information. , 2019, 2019, 398-404.		3
86	Design Principles of a Light, Wearable Upper Limb Interface for Prosthetics and Teleoperation. , 2020, , 377-391.		3
87	Interaction in Assistive Robotics: A Radical Constructivist Design Framework. Frontiers in Neurorobotics, 2021, 15, 675657.	1.6	3
88	Peripheral Neuroergonomics â€“ An Elegant Way to Improve Human-Robot Interaction?. Frontiers in Neurorobotics, 2021, 15, 691508.	1.6	3
89	Towards a Theoretical Framework for Learning Multi-modal Patterns for Embodied Agents. Lecture Notes in Computer Science, 2009, , 239-248.	1.0	3
90	The SAT-based Approach to Separation Logic. Journal of Automated Reasoning, 2006, 35, 237-263.	1.1	2

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91	Ultrapiano: A novel human-machine interface applied to virtual reality. , 2014, , .		2
92	Proof Planning for First-Order Temporal Logic. Lecture Notes in Computer Science, 2005, , 235-249.	1.0	2
93	Proof Planning for Feature Interactions: A Preliminary Report. Lecture Notes in Computer Science, 2002, , 102-114.	1.0	2
94	Learning to teleoperate an upper-limb assistive humanoid robot for bimanual daily-living tasks. Biomedical Physics and Engineering Express, 2022, 8, 015022.	0.6	2
95	Towards Improving Myocontrol of Prosthetic Hands: A Study on Automated Instability Detection. , 2018, , .		1
96	Highly Intuitive 3-DOF Simultaneous and Proportional Myocontrol of Wrist and Hand. Biosystems and Biorobotics, 2022, , 377-382.	0.2	1
97	Online Continuous Detection of Time-Varying Muscle Synergies. Biosystems and Biorobotics, 2022, , 797-801.	0.2	1
98	Gaze Tracking in Semi-Autonomous Grasping. Journal of Eye Movement Research, 2008, 2, .	0.5	1
99	Editorial: Embodiment and Co-adaptation Through Human-Machine Interfaces: At the Border of Robotics, Neuroscience and Psychology. Frontiers in Neurorobotics, 2022, 16, 871785.	1.6	1
100	Editorial: Current Trends in Deep Learning for Movement Analysis and Prosthesis Control. Frontiers in Neuroscience, 2022, 16, 889202.	1.4	1
101	Editorial: Peripheral Nervous System-Machine Interfaces (PNS-MI). Frontiers in Neurorobotics, 2017, 11, 54.	1.6	0
102	Cover Image, Volume 10, Issue 2. Wiley Interdisciplinary Reviews: Cognitive Science, 2019, 10, e1498.	1.4	0
103	Simultaneous and Proportional Myocontrol of a Hand Exoskeleton for Spinal Muscular Atrophy: A Preliminary Evaluation. Biosystems and Biorobotics, 2022, , 655-659.	0.2	0
104	A Novel Physiologically-Inspired Method for Myoelectric Prosthesis Control Using Pattern Classification. Biosystems and Biorobotics, 2019, , 1017-1021.	0.2	0
105	The SAT-based Approach to Separation Logic. , 2005, , 237-263.		0
106	Peripheral Nervous System Interfaces: Invasive or Non-invasive?. Frontiers in Neurorobotics, 2022, 16, 846866.	1.6	0