Matteo Bianchi

List of Publications by Year
in descending order

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106
papers

2,561
citations

236925
25
h-index

254184
43
g-index

114
all docs

114
docs citations

114
times ranked

2205
citing authors

#	Article	IF	Citations
1	A Topology-Optimization-Based Design Methodology for Wearable Robots: Implementation and Application. Biosystems and Biorobotics, 2022, , 493-497.	0.3	0
2	Model-based mechanical design of a passive lower-limb exoskeleton for assisting workers in shotcrete projection. Meccanica, 2021, 56, 195-210.	2.0	14
3	Design of an automatic optical system to measure anthropometric hand parameters. International Journal on Interactive Design and Manufacturing, 2021, 15, 73-75.	2.2	0
4	Classifying Affective Haptic Stimuli through Gender-Specific Heart Rate Variability Nonlinear Analysis. IEEE Transactions on Affective Computing, 2020, 11, 459-469.	8.3	8
5	A Portable Tailor-Made Exoskeleton for Hand Disabilities. , 2020, , 177-191.		1
6	Underwater Robotics Competitions: The European Robotics League Emergency Robots Experience With FeelHippo AUV. Frontiers in Robotics and AI, 2020, 7, 3.	3.2	4
7	Optimization-Based Scaling Procedure. Springer Theses, 2020, , 25-45.	0.1	0
8	ABS Hand Exoskeleton Prototypes: Experimental Results. Springer Theses, 2020, , 47-67.	0.1	0
9	HapPro: A Wearable Haptic Device for Proprioceptive Feedback. IEEE Transactions on Biomedical Engineering, 2019, 66, 138-149.	4.2	36
10	Soft tactile sensing: retrieving force, torque and contact point information from deformable surfaces. , 2019, , .		4
11	On the role of wearable haptics for force feedback in teleimpedance control for dual-arm robotic teleoperation. , 2019, , .		19
12	On the Time-Invariance Properties of Upper Limb Synergies. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 1397-1406.	4.9	21
13	Relaying the High-Frequency Contents of Tactile Feedback to Robotic Prosthesis Users: Design, Filtering, Implementation, and Validation. IEEE Robotics and Automation Letters, 2019, 4, 926-933.	5.1	13
14	A Novel Skin-Stretch Haptic Device for Intuitive Control of Robotic Prostheses and Avatars. IEEE Robotics and Automation Letters, 2019, 4, 1572-1579.	5.1	26
15	Tailor-Made Hand Exoskeletons at the University of Florence: From Kinematics to Mechatronic Design. Machines, 2019, 7, 22.	2.2	19
16	Wearable haptic interfaces for applications in gynecologic robotic surgery: a proof of concept in robotic myomectomy. Journal of Robotic Surgery, 2019, 13, 585-588.	1.8	6
17	Skin Stretch Haptic Feedback to Convey Closure Information in Anthropomorphic, Under-Actuated Upper Limb Soft Prostheses. IEEE Transactions on Haptics, 2019, 12, 508-520.	2.7	35
18	Editorial: Mapping Human Sensory-Motor Skills for Manipulation Onto the Design and Control of Robots. Frontiers in Neurorobotics, 2019, 13, 1.	2.8	26

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19	Assessment of muscle fatigue during isometric contraction using autonomic nervous system correlates. Biomedical Signal Processing and Control, 2019, 51, 42-49.	5.7	24
20	A novel application of a surface ElectroMyoGraphy-based control strategy for a hand exoskeleton system: A single-case study. International Journal of Advanced Robotic Systems, 2019, 16, 172988141982819.	2.1	24
21	Learning From Humans How to Grasp: A Data-Driven Architecture for Autonomous Grasping With Anthropomorphic Soft Hands. IEEE Robotics and Automation Letters, 2019, 4, 1533-1540.	5.1	65
22	Predicting Object-Mediated Gestures From Brain Activity: An EEG Study on Gender Differences. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 411-418.	4.9	19
23	Contact with Sliding over a Rotating Ridged Surface: the Turntable Illusion. , 2019, , .		2
24	Design of a Self-moving Autonomous Buoy for the Localization of Underwater Targets. , 2019, , .		2
25	Lowâ€cost solution in international robotic challenge: Lessons learned by Tuscany Robotics Team at ERL Emergency Robots 2017. Journal of Field Robotics, 2019, 36, 587-601.	6.0	4
26	Assistive Hand Exoskeletons: The Prototypes Evolution at the University of Florence. Mechanisms and Machine Science, 2019, , 307-315.	0.5	6
27	Kinematics-Based Strategy for the Design of a Pediatric Hand Exoskeleton Prototype. Mechanisms and Machine Science, 2019, , 501-508.	0.5	8
28	A Synergistic Behavior Underpins Human Hand Grasping Force Control During Environmental Constraint Exploitation. Biosystems and Biorobotics, 2019, , 67-71.	0.3	0
29	Model-Based Approach in Developing a Hand Exoskeleton for Children: A Preliminary Study. Biosystems and Biorobotics, 2019, , 490-494.	0.3	2
30	Efficient Walking Gait Generation via Principal Component Representation of Optimal Trajectories: Application to a Planar Biped Robot With Elastic Joints. IEEE Robotics and Automation Letters, 2018, 3, 2299-2306.	5.1	21
31	Design of a Series Elastic Transmission for hand exoskeletons. Mechatronics, 2018, 51, 8-18.	3.3	34
32	Simplifying Telerobotics: Wearability and Teleimpedance Improves Human-Robot Interactions in Teleoperation. IEEE Robotics and Automation Magazine, 2018, 25, 77-88.	2.0	38
33	W-FYD: A Wearable Fabric-Based Display for Haptic Multi-Cue Delivery and Tactile Augmented Reality. IEEE Transactions on Haptics, 2018, 11, 304-316.	2.7	36
34	EEG Complexity Maps to Characterise Brain Dynamics during Upper Limb Motor Imagery. , 2018, 2018, 3060-3063.		7
35	EEG Processing to Discriminate Transitive-Intransitive Motor Imagery Tasks: Preliminary Evidences using Support Vector Machines. , 2018, 2018, 231-234.		3
36	ExoSense: Measuring Manipulation in a Wearable Manner. , 2018, , .		6

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37	Touch-Based Grasp Primitives for Soft Hands: Applications to Human-to-Robot Handover Tasks and Beyond. , 2018, , .		18
38	Towards a Technology-Based Assessment of Sensory-Motor Pathological States Through Tactile Illusions. , 2018, , .		3
39	The SoftHand Pro: Functional evaluation of a novel, flexible, and robust myoelectric prosthesis. PLoS ONE, 2018, 13, e0205653.	2.5	62
40	Optimization-based scaling procedure for the design of fully portable hand exoskeletons. Meccanica, 2018, 53, 3157-3175.	2.0	16
41	Incrementality and Hierarchies in the Enrollment of Multiple Synergies for Grasp Planning. IEEE Robotics and Automation Letters, 2018, 3, 2686-2693.	5.1	23
42	EEG oscillations during caressâ€like affective haptic elicitation. Psychophysiology, 2018, 55, e13199.	2.4	15
43	Separating haptic guidance from task dynamics: A practical solution via cutaneous devices. , 2018, , .		9
44	Decentralized Trajectory Tracking Control for Soft Robots Interacting With the Environment. IEEE Transactions on Robotics, 2018, 34, 924-935.	10.3	47
45	AirExGlove â€" A novel pneumatic exoskeleton glove for adaptive hand rehabilitation in post-stroke patients. , 2018, , .		41
46	Advanced Grasping with the Pisa/IIT SoftHand. Communications in Computer and Information Science, 2018, , 19-38.	0.5	1
47	Mechatronic designs for a robotic hand to explore human body experience and sensory-motor skills: a Delphi study. Advanced Robotics, 2018, 32, 670-680.	1.8	6
48	Kinematic synthesis and testing of a new portable hand exoskeleton. Meccanica, 2017, 52, 2873-2897.	2.0	28
49	Controlling Soft Robots: Balancing Feedback and Feedforward Elements. IEEE Robotics and Automation Magazine, 2017, 24, 75-83.	2.0	104
50	Design of an under-actuated wrist based on adaptive synergies. , 2017, , .		18
51	Heart rate variability analysis during muscle fatigue due to prolonged isometric contraction. , 2017, 2017, 1324-1327.		3
52	The SoftHand Pro: Translation from Robotic Hand to Prosthetic Prototype. Biosystems and Biorobotics, 2017, , 469-473.	0.3	9
53	An Integrated Approach to Characterize the Behavior of a Human Fingertip in Contact with a Silica Window. IEEE Transactions on Haptics, 2017, 10, 123-129.	2.7	5
54	On the Role of Affective Properties in Hedonic and Discriminant Haptic Systems. International Journal of Social Robotics, 2017, 9, 87-95.	4.6	12

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55	From humans to robots: The role of cutaneous impairment in human environmental constraint exploitation to inform the design of robotic hands. , 2017, , .		5
56	Employment of an Autonomous Underwater Vehicle as mobile bridge among heterogeneous acoustic nodes. IFAC-PapersOnLine, 2017, 50, 12380-12385.	0.9	3
57	Muscle fatigue assessment through electrodermal activity analysis during isometric contraction. , 2017, 2017, 398-401.		4
58	The Rice Haptic Rocker: Skin stretch haptic feedback with the Pisa/IIT SoftHand. , 2017, , .		57
59	Recognition of affective haptic stimuli conveyed by different fabrics sing EEG-based sparse SVM. , 2017, , .		4
60	Unvealing the Principal Modes of Human Upper Limb Movements through Functional Analysis. Frontiers in Robotics and AI, 2017, 4, .	3.2	38
61	A Humanâ€"Robot Interaction Perspective on Assistive and Rehabilitation Robotics. Frontiers in Neurorobotics, 2017, 11, 24.	2.8	102
62	Postural Hand Synergies during Environmental Constraint Exploitation. Frontiers in Neurorobotics, 2017, 11, 41.	2.8	56
63	SoftHand at the CYBATHLON: a userâ€™s experience. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 124.	4.6	18
64	Tactile slip and hand displacement: Bending hand motion with tactile illusions. , 2017, , .		11
65	Synergy-Driven Performance Enhancement ofÂVision-Based 3D Hand Pose Reconstruction. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2017, , 328-336.	0.3	0
66	A Synergy-Based Optimally Designed Sensing Glove for Functional Grasp Recognition. Sensors, 2016, 16, 811.	3.8	29
67	Assessment of Myoelectric Controller Performance and Kinematic Behavior of a Novel Soft Synergy-Inspired Robotic Hand for Prosthetic Applications. Frontiers in Neurorobotics, 2016, 10, 11.	2.8	20
68	A Multi-Modal Sensing Glove for Human Manual-Interaction Studies. Electronics (Switzerland), 2016, 5, 42.	3.1	34
69	A Fabric-Based Approach for Wearable Haptics. Electronics (Switzerland), 2016, 5, 44.	3.1	25
70	Design and Optimization of a Flexion/Extension Mechanism for a Hand Exoskeleton System. , 2016, , .		5
71	Recent Data Sets on Object Manipulation: A Survey. Big Data, 2016, 4, 197-216.	3.4	29
72	The Change in Fingertip Contact Area as a Novel Proprioceptive Cue. Current Biology, 2016, 26, 1159-1163.	3.9	60

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73	Tactile Augmented Reality for Arteries Palpation in Open Surgery Training. Lecture Notes in Computer Science, 2016, , 186-197.	1.3	13
74	Forceâ€"Velocity Assessment of Caress-Like Stimuli Through the Electrodermal Activity Processing: Advantages of a Convex Optimization Approach. IEEE Transactions on Human-Machine Systems, 2016, , 1-10.	3.5	16
75	An automatic scaling procedure for a wearable and portable hand exoskeleton. , 2016, , .		9
76	On the pleasantness of a haptic stimulation: How different textures can be recognized through heart rate variability nonlinear analysis. , 2016, 2016, 3560-3563.		4
77	Influence of force feedback on grasp force modulation in prosthetic applications: A preliminary study. , 2016, 2016, 5439-5442.		30
78	A Wearable Fabric-based display for haptic multi-cue delivery. , 2016, , .		34
79	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.	2.8	13
80	ThimbleSense: A Fingertip-Wearable Tactile Sensor for Grasp Analysis. IEEE Transactions on Haptics, 2016, 9, 121-133.	2.7	42
81	Hand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial hands. Physics of Life Reviews, 2016, 17, 1-23.	2.8	191
82	A synergy-based hand control is encoded in human motor cortical areas. ELife, 2016, 5, .	6.0	98
83	A novel tactile display for softness and texture rendering in tele-operation tasks. , 2015, , .		5
84	An instrumented manipulandum for human grasping studies. , 2015, , .		3
85	Electroencephalographic spectral correlates of caress-like affective haptic stimuli. , 2015, 2015, 4733-6.		3
86	Design and realization of the CUFF - clenching upper-limb force feedback wearable device for distributed mechano-tactile stimulation of normal and tangential skin forces. , 2015, , .		77
87	Electrodermal activity analysis during affective haptic elicitation. , 2015, 2015, 5777-80.		13
88	A Finite element model of tactile flow for softness perception. , 2015, 2015, 2430-3.		4
89	Characterization of nonlinear finger pad mechanics for tactile rendering. , 2015, , .		12
90	Design and Characterization of a Fabric-Based Softness Display. IEEE Transactions on Haptics, 2015, 8, 152-163.	2.7	35

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91	Gender-specific velocity recognition of caress-like stimuli through nonlinear analysis of Heart Rate Variability. , 2015, 2015, 298-301.		10
92	Exploring Teleimpedance and Tactile Feedback for Intuitive Control of the Pisa/IIT SoftHand. IEEE Transactions on Haptics, 2014, 7, 203-215.	2.7	107
93	A Change in the Fingertip Contact Area Induces an Illusory Displacement of the Finger. Lecture Notes in Computer Science, 2014, , 72-79.	1.3	10
94	Synergy-based hand pose sensing: Reconstruction enhancement. International Journal of Robotics Research, 2013, 32, 396-406.	8.5	34
95	Characterization and Psychophysical Studies of an Air-Jet Lump Display. IEEE Transactions on Haptics, 2013, 6, 156-166.	2.7	24
96	Synergy-based hand pose sensing: Optimal glove design. International Journal of Robotics Research, 2013, 32, 407-424.	8.5	46
97	A device for mimicking the contact force/contact area relationship of different materials with applications to softness rendering. , 2013, , .		18
98	A data-driven kinematic model of the human hand with soft-tissue artifact compensation mechanism for grasp synergy analysis. , 2013, , .		35
99	Synergy-based optimal design of hand pose sensing. , 2012, , .		8
100	On the use of postural synergies to improve human hand pose reconstruction. , 2012, , .		10
101	Design and control of an air-jet lump display. , 2012, , .		13
102	Characterization of an air jet haptic lump display. , 2011, 2011, 3467-70.		12
103	Rendering Softness: Integration of Kinesthetic and Cutaneous Information in a Haptic Device. IEEE Transactions on Haptics, 2010, 3, 109-118.	2.7	94
104	A new fabric-based softness display. , 2010, , .		17
105	Validation of a Virtual Reality Environment to Study Anticipatory Modulation of Digit Forces and Position. Lecture Notes in Computer Science, 2010, , 136-143.	1.3	0
106	Modelling and control of HIV dynamics. Computer Methods and Programs in Biomedicine, 2008, 89, 162-168.	4.7	40