Simone Benatti

List of Publications by Year
in descending order

48 papers	1,514 citations	687363 13 h-index	752698 20 g-index
48 all docs	48 docs citations	48 times ranked	1362 citing authors

#	Article	IF	Citations
1	A wearable biosensing system with in-sensor adaptive machine learning for hand gesture recognition. Nature Electronics, 2021, 4, 54-63.	26.0	317
2	A Versatile Embedded Platform for EMG Acquisition and Gesture Recognition. IEEE Transactions on Biomedical Circuits and Systems, 2015, 9, 620-630.	4.0	173
3	Hyperdimensional biosignal processing: A case study for EMG-based hand gesture recognition. , 2016, , .		103
4	Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 244-256.	4.0	81
5	An sEMG-Based Humanâ€“Robot Interface for Robotic Hands Using Machine Learning and Synergies. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2018, 8, 1149-1158.	2.5	73
6	An EMG Gesture Recognition System with Flexible High-Density Sensors and Brain-Inspired High-Dimensional Classifier. , 2018, , .		65
7	A sensor fusion approach for drowsiness detection in wearable ultra-low-power systems. Information Fusion, 2018, 43, 66-76.	19.1	56
8	Power Line Interference Removal for High-Quality Continuous Biosignal Monitoring With Low-Power Wearable Devices. IEEE Sensors Journal, 2016, 16, 3887-3895.	4.7	53
9	Online Learning and Classification of EMG-Based Gestures on a Parallel Ultra-Low Power Platform Using Hyperdimensional Computing. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 516-528.	4.0	53
10	A Prosthetic Hand Body Area Controller Based on Efficient Pattern Recognition Control Strategies. Sensors, 2017, 17, 869.	3.8	49
11	Hybrid EMG classifier based on HMM and SVM for hand gesture recognition in prosthetics. , 2015, , .		45
12	EMG-based hand gesture recognition with flexible analog front end. , 2014, , .		35
13	PULP-HD. , 2018, , .		32
14	ÂBioWolf: A Sub-10-mW 8-Channel Advanced Brainâ€“Computer Interface Platform With a Nine-Core Processor and BLE Connectivity. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 893-906.	4.0	32
15	Design challenges for wearable EMG applications. , 2017, , .		31
16	An Ensemble of Hyperdimensional Classifiers: Hardware-Friendly Short-Latency Seizure Detection With Automatic iEEG Electrode Selection. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 935-946.	6.3	27
17	A sub-10mW real-time implementation for EMG hand gesture recognition based on a multi-core biomedical SoC. , 2017, , .		21
18	A wearable EEG-based drowsiness detection system with blink duration and alpha waves analysis. , 2017, , .		20

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19	Embedded Streaming Principal Components Analysis for Network Load Reduction in Structural Health Monitoring. IEEE Internet of Things Journal, 2021, 8, 4433-4447.	8.7	20
20	Q-PPG: Energy-Efficient PPG-Based Heart Rate Monitoring on Wearable Devices. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1196-1209.	4.0	20
21	Experimental evaluation of a sEMG-based human-robot interface for human-like grasping tasks. , 2015, , .		19
22	Towards EMG control interface for smart garments. , 2014, , .		15
23	Flexible, Scalable and Energy Efficient Bio-Signals Processing on the PULP Platform: A Case Study on Seizure Detection. Journal of Low Power Electronics and Applications, 2017, 7, 16.	2.0	15
24	Towards Long-term Non-invasive Monitoring for Epilepsy via Wearable EEG Devices. , 2021, , .		15
25	A Wearable Device for Minimally-Invasive Behind-the-Ear EEG and Evoked Potentials. , 2018, , .		12
26	A Minimally Invasive Low-Power Platform for Real-Time Brain Computer Interaction Based on Canonical Correlation Analysis. IEEE Internet of Things Journal, 2019, 6, 967-977.	8.7	12
27	An Energy-Efficient IoT node for HMI applications based on an ultra-low power Multicore Processor. , 2019, , .		12
28	Robust and Energy-Efficient PPG-Based Heart-Rate Monitoring. , 2021, , .		12
29	Efficient Artifact Removal from Low-Density Wearable EEG using Artifacts Subspace Reconstruction. , 2021, 2021, 333-336.		11
30	Multiple Biopotentials Acquisition System for Wearable Applications. , 2015, , .		10
31	Bioformers: Embedding Transformers for Ultra-Low Power sEMG-based Gesture Recognition. , 2022, , .		10
32	A Low-Power Transprecision Floating-Point Cluster for Efficient Near-Sensor Data Analytics. IEEE Transactions on Parallel and Distributed Systems, 2022, 33, 1038-1053.	5.6	9
33	Embedding Temporal Convolutional Networks for Energy-efficient PPG-based Heart Rate Monitoring. ACM Transactions on Computing for Healthcare, 2022, 3, 1-25.	5.0	9
34	A machine learning approach for automated wide-range frequency tagging analysis in embedded neuromonitoring systems. Methods, 2017, 129, 96-107.	3.8	8
35	sEMG-based Regression of Hand Kinematics with Temporal Convolutional Networks on a Low-Power Edge Microcontroller. , 2021, , .		8
36	PULP-HD: Accelerating Brain-Inspired High-Dimensional Computing on a Parallel Ultra-Low Power Platform. , 2018, , .		6

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37	Digitally controlled feedback for DC offset cancellation in a wearable multichannel EMG platform. , 2015, 2015, 3189-92.		5
38	Tackling Time-Variability in sEMG-based Gesture Recognition with On-Device Incremental Learning and Temporal Convolutional Networks. , 2021, , .		5
39	Towards a Novel HMI Paradigm Based on Mixed EEG and Indoor Localization Platforms. , 2017, , .		4
40	Low-Latency Detection of Epileptic Seizures from iEEG with Temporal Convolutional Networks on a Low-Power Parallel MCU. , 2021, , .		3
41	UStEMG: an Ultrasound Transparent Tattoo-based sEMG System for Unobtrusive Parallel Acquisitions of Muscle Electro-mechanics. , 2021, 2021, 7077-7082.		3
42	Using Low-Power, Low-Cost IoT Processors in Clinical Biosignal Research: an In-depth Feasibility Check. , 2020, 2020, 4008-4011.		2
43	Efficient Transform Algorithms for Parallel Ultra-Low-Power IoT End Nodes. IEEE Embedded Systems Letters, 2021, 13, 210-213.	1.9	1
44	A Fully Integrated 5-mW, 0.8-Gbps Energy-Efficient Chip-to-Chip Data Link for Ultralow-Power IoT End-Nodes in 65-nm CMOS. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, , 1-12.	3.1	1
45	A Wearable Device for Brainâ€“Machine Interaction with Augmented Reality Head-Mounted Display. EAI/Springer Innovations in Communication and Computing, 2020, , 339-351.	1.1	1
46	Neuro-PULP: A Paradigm Shift Towards Fully Programmable Platforms for Neural Interfaces. , 2020, , .		0
47	Towards Versatile Fast Training for Wearable Interfaces in Prosthetics. Biosystems and Biorobotics, 2019, , 157-161.	0.3	0
48	A Cost-Effective Embedded Platform for Scalable Multichannel Biopotential Acquisition. EAI/Springer Innovations in Communication and Computing, 2020, , 353-364.	1.1	0