Mauro Mangia

List of Publications by Year in descending order

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80 papers	977 citations	566801 15 h-index	500791 28 g-index
82 all docs	82 docs citations	82 times ranked	661 citing authors

#	Article	IF	Citations
1	A Pragmatic Look at Some Compressive Sensing Architectures With Saturation and Quantization. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 443-459.	2.7	100
2	Low-Complexity Multiclass Encryption by Compressed Sensing. IEEE Transactions on Signal Processing, 2015, , 1-1.	3.2	90
3	Hardware-Algorithms Co-Design and Implementation of an Analog-to-Information Converter for Biosignals Based on Compressed Sensing. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 149-162.	2.7	85
4	Rakeness in the Design of Analog-to-Information Conversion of Sparse and Localized Signals. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 1001-1014.	3.5	82
5	On Known-Plaintext Attacks to a Compressed Sensing-Based Encryption: A Quantitative Analysis. IEEE Transactions on Information Forensics and Security, 2015, 10, 2182-2195.	4.5	75
6	Rakeness-Based Design of Low-Complexity Compressed Sensing. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 1201-1213.	3.5	47
7	A Case Study in Low-Complexity ECG Signal Encoding: How Compressing is Compressed Sensing?. IEEE Signal Processing Letters, 2015, 22, 1743-1747.	2.1	33
8	Low-Cost Security of IoT Sensor Nodes With Rakeness-Based Compressed Sensing: Statistical and Known-Plaintext Attacks. IEEE Transactions on Information Forensics and Security, 2018, 13, 327-340.	4.5	28
9	Energy Analysis of Decoders for Rakeness-Based Compressed Sensing of ECG Signals. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 1278-1289.	2.7	27
10	Model-Assisted Compressed Sensing for Vibration-Based Structural Health Monitoring. IEEE Transactions on Industrial Informatics, 2021, 17, 7338-7347.	7.2	27
11	A rakeness-based design flow for Analog-to-Information conversion by Compressive Sensing. , 2013, , .		25
12	Energy-Aware Bio-Signal Compressed Sensing Reconstruction on the WBSN-Gateway. IEEE Transactions on Emerging Topics in Computing, 2018, 6, 370-381.	3.2	23
13	Embedded Streaming Principal Components Analysis for Network Load Reduction in Structural Health Monitoring. IEEE Internet of Things Journal, 2021, 8, 4433-4447.	5.5	20
14	An Ultra-Low Power Dual-mode ECG Monitor for Healthcare and Wellness. , 2015, , .		18
15	Chained Compressed Sensing: A Blockchain-Inspired Approach for Low-Cost Security in IoT Sensing. IEEE Internet of Things Journal, 2019, 6, 6465-6475.	5.5	17
16	Analog-to-information conversion of sparse and non-white signals: Statistical design of sensing waveforms. , 2011, , .		16
17	Zeroing for HW-efficient compressed sensing architectures targeting data compression in wireless sensor networks. Microprocessors and Microsystems, 2017, 48, 69-79.	1.8	16
18	Generation of Antipodal Random Vectors With Prescribed Non-Stationary 2-nd Order Statistics. IEEE Transactions on Signal Processing, 2014, 62, 1603-1612.	3.2	15

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19	Rakeness-based approach to compressed sensing of ECGs. , 2011, , .		14
20	Deep Neural Oracles for Short-window Optimized Compressed Sensing of Biosignals. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 1-1.	2.7	14
21	Adapted Compressed Sensing for Effective Hardware Implementations. , 2018, , .		14
22	Subspace Energy Monitoring for Anomaly Detection @Sensor or @Edge. IEEE Internet of Things Journal, 2020, 7, 7575-7589.	5.5	13
23	Energy-Aware Bio-signal Compressed Sensing Reconstruction: FOCUSS on the WBSN-Gateway. , 2015, , .		11
24	A Unified Design Theory for Class-E Resonant DCâ€“DC Converter Topologies. IEEE Access, 2019, 7, 83825-83838.	2.6	11
25	Adapted Compressed Sensing: A Game Worth Playing. IEEE Circuits and Systems Magazine, 2020, 20, 40-60.	2.6	11
26	Adaptive Matrix Design for Boosting Compressed Sensing. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 1016-1027.	3.5	9
27	An architecture for 1-bit localized compressive sensing with applications to EEG. , 2011, , .		8
28	Rakeness-based compressed sensing on ultra-low power multi-core biomedicai processors. , 2014, , .		8
29	Ripple-based power-line communication in switching DC-DC converters exploiting switching frequency modulation. , 2015, , .		8
30	Low cost mobile EEG for characterization of cortical auditory responses. , 2016, , .		8
31	Rakeness-Based Compressed Sensing of Multiple-Graph Signals for IoT Applications. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 682-686.	2.2	8
32	Coping with saturating projection stages in RMPI-based Compressive Sensing. , 2012, , .		7
33	Low-power EEG monitor based on compressed sensing with compressed domain noise rejection. , 2016, , .		6
34	Deep Neural Oracle With Support Identification in the Compressed Domain. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2020, 10, 458-468.	2.7	6
35	Correlation tuning in compressive sensing based on rakeness: A case study. , 2013, , .		5
36	Administering Quality-Energy Trade-Off in IoT Sensing Applications by Means of Adapted Compressed Sensing. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 895-907.	2.7	5

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37	Rakeness-Based Compressed Sensing and Hub Spreading to Administer Short/Long-Range Communication Tradeoff in IoT Settings. IEEE Internet of Things Journal, 2018, 5, 2220-2233.	5.5	5
38	An Energy-Efficient Multi-Sensor Compressed Sensing System Employing Time-Mode Signal Processing Techniques. , 2019, , .		4
39	Low-power ECG acquisition by Compressed Sensing with Deep Neural Oracles. , 2020, , .		4
40	Compressed Sensing by Phase Change Memories: Coping with Encoder non-Linearities. , 2021, , .		4
41	Narrowband interference reduction in UWB systems based on spreading sequence spectrum shaping. , 2010, , .		3
42	Probability metrics to calibrate stochastic chemical kinetics. , 2010, , .		3
43	Average recovery performances of non-perfectly informed compressed sensing: With applications to multiclass encryption. , 2015, , .		3
44	Security analysis of rakeness-based compressed sensing. , 2016, , .		3
45	Sparse sensing matrix based compressed sensing in low-power ECG sensor nodes. , 2017, , .		3
46	Class-E Isolated DCâ€“DC Converter With High-Rate and Cost-Effective Bidirectional Data Channel. IEEE Transactions on Power Electronics, 2020, 35, 5304-5318.	5.4	3
47	A passive and low-complexity Compressed Sensing architecture based on a charge-redistribution SAR ADC. The Integration VLSI Journal, 2020, 75, 40-51.	1.3	3
48	Leakage compensation in analog random modulation pre-integration architectures for biosignal acquisition. , 2014, , .		2
49	Application of spread-spectrum techniques to class-E DC/DC converters: some preliminary results. , 2015, , .		2
50	Application of compressed sensing to ECG signals: Decoder-side benefits of the rakeness approach. , 2016, , .		2
51	Rakeness-based Compressed Sensing of Surface ElectroMyoGraphy for Improved Hand Movement Recognition in the Compressed Domain. , 2018, , .		2
52	Low-Power Fixed-Point Compressed Sensing Decoder with Support Oracle. , 2020, , .		2
53	Geometric constraints in sensing matrix design for compressed sensing. Signal Processing, 2020, 171, 107498.	2.1	2
54	Joint analog-to-information conversion of heterogeneous biosignals. , 2013, , .		1

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55	Compressed sensing based on rakeness for surface ElectroMyoGraphy. , 2014, , .		1
56	Implicit notch filtering in compressed sensing by spectral shaping of sensing matrix. , 2016, , .		1
57	Low-complexity greedy algorithm in compressed sensing for the adapted decoding of ECGs. , 2017, , .		1
58	Countering the false myth of democracy: Boosting compressed sensing performance with maximum-energy approach. , 2017, , .		1
59	Disturbance Rejection With Rakeness-based Compressed Sensing: Method and Application to Baseline/Powerline Mitigation in ECGs. , 2018, , .		1
60	A Practical Architecture for SAR-based ADCs with Embedded Compressed Sensing Capabilities. , 2019, , .		1
61	A High-level Implementation Framework for Non-Recurrent Artificial Neural Networks on FPGA. , 2019, , .		1
62	Rakeness-Based Compressed Sensing of Atrial Electrograms for the Diagnosis of Atrial Fibrillation. , 2019, , .		1
63	Tuning a Resonant DC/DC Converter on the Second Harmonic for Improving Performance: A Case Study. , 2019, , .		1
64	Chained Compressed Sensing for Iot Node Security. , 2019, , .		1
65	Through-The-Barrier Communications in Isolated Class-E Converters Embedding a Low-K Transformer. , 2020, , .		1
66	HW-Oriented Compressed Sensing for Operational Modal Analysis: The Impact of Noise in MEMS Accelerometer Networks. , 2021, , .		1
67	Analog-to-Information Conversion. , 2018, , 169-210.		1
68	Low-Complexity Biosignal Compression Using Compressed Sensing. , 2018, , 211-254.		1
69	An MCU Implementation of PCA/PSA Streaming Algorithms for EEG Features Extraction. , 2021, , .		1
70	A Deep Learning Method for Optimal Undersampling Patterns and Image Recovery for MRI Exploiting Losses and Projections. IEEE Journal on Selected Topics in Signal Processing, 2022, 16, 713-724.	7.3	1
71	Rakeness and beyond in zero-complexity digital compressed sensing: A down-to-bits case study. , 2016, , .		0
72	Resource Redistribution in Internet of Things applications by Compressed Sensing: A Survey. , 2018, , .		0

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73	Projected-Gradient-Descent in Rakeness-Based Compressed Sensing with Disturbance Rejection. , 2018, , .		0
74	Compressed Sensing of $DeltaSigma$ Streams. , 2019, , .		0
75	Introduction to Compressed Sensing: Fundamentals and Guarantees. , 2018, , 1-28.		0
76	Architectures for Compressed Sensing. , 2018, , 139-167.		0
77	Security at the Analog-to-Information Interface Using Compressed Sensing. , 2018, , 255-319.		0
78	From Universal to Adapted Acquisition: Rake That Signal!. , 2018, , 57-82.		0
79	An architecture for ultra-low-voltage ultra-low-power compressed sensing-based acquisition systems. , 2021, , .		0
80	Compressed Sensing Inspired Neural Decoder for Undersampled MRI with Self-Assessment. , 2021, , .		0