Kea-Tiong Tang

List of Publications by Year
in descending order

105 papers	2,570 citations	304743 22 h-index	254184 43 g-index
105 all docs	105 docs citations	105 times ranked	2867 citing authors

#	Article	IF	Citations
1	A review of sensor-based methods for monitoring hydrogen sulfide. TrAC - Trends in Analytical Chemistry, 2012, 32, 87-99.	11.4	310
2	Towards a Chemiresistive Sensor-Integrated Electronic Nose: A Review. Sensors, 2013, 13, 14214-14247.	3.8	173
3	24.5 A Twin-8T SRAM Computation-In-Memory Macro for Multiple-Bit CNN-Based Machine Learning. , 2019, , .		173
4	24.1 A 1Mb Multibit ReRAM Computing-In-Memory Macro with 14.6ns Parallel MAC Computing Time for CNN Based AI Edge Processors. , 2019, , .		162
5	CMOS-integrated memristive non-volatile computing-in-memory for AI edge processors. Nature Electronics, 2019, 2, 420-428.	26.0	161
6	A Twin-8T SRAM Computation-in-Memory Unit-Macro for Multibit CNN-Based AI Edge Processors. IEEE Journal of Solid-State Circuits, 2020, 55, 189-202.	5.4	108
7	Development of a Portable Electronic Nose System for the Detection and Classification of Fruity Odors. Sensors, 2010, 10, 9179-9193.	3.8	99
8	15.5 A 28nm 64Kb 6T SRAM Computing-in-Memory Macro with 8b MAC Operation for AI Edge Chips. , 2020, , .		99
9	A Battery-Less, Implantable Neuro-Electronic Interface for Studying the Mechanisms of Deep Brain Stimulation in Rat Models. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 98-112.	4.0	75
10	A CMOS-integrated compute-in-memory macro based on resistive random-access memory for AI edge devices. Nature Electronics, 2021, 4, 81-90.	26.0	66
11	Embedded 1-Mb ReRAM-Based Computing-in- Memory Macro With Multibit Input and Weight for CNN-Based AI Edge Processors. IEEE Journal of Solid-State Circuits, 2020, 55, 203-215.	5.4	62
12	A Low-Power Electronic Nose Signal-Processing Chip for a Portable Artificial Olfaction System. IEEE Transactions on Biomedical Circuits and Systems, 2011, 5, 380-390.	4.0	56
13	VLSI Implementation of a Bio-Inspired Olfactory Spiking Neural Network. IEEE Transactions on Neural Networks and Learning Systems, 2012, 23, 1065-1073.	11.3	55
14	A Local Computing Cell and 6T SRAM-Based Computing-in-Memory Macro With 8-b MAC Operation for Edge AI Chips. IEEE Journal of Solid-State Circuits, 2021, 56, 2817-2831.	5.4	52
15	Optical detection of organic vapors using cholesteric liquid crystals. Applied Physics Letters, 2011, 99, 073504.	3.3	51
16	A 4-Kb 1-to-8-bit Configurable 6T SRAM-Based Computation-in-Memory Unit-Macro for CNN-Based AI Edge Processors. IEEE Journal of Solid-State Circuits, 2020, 55, 2790-2801.	5.4	50
17	A Single-Walled Carbon Nanotube Network Gas Sensing Device. Sensors, 2011, 11, 7763-7772.	3.8	49
18	Development of a portable electronic nose based on chemical surface acoustic wave array with multiplexed oscillator and readout electronics. Sensors and Actuators B: Chemical, 2010, 146, 545-553.	7.8	42

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19	Using a Hybrid Deep Neural Network for Gas Classification. IEEE Sensors Journal, 2021, 21, 6401-6407.	4.7	37
20	A four-megabit compute-in-memory macro with eight-bit precision based on CMOS and resistive random-access memory for AI edge devices. Nature Electronics, 2021, 4, 921-930.	26.0	36
21	A 0.5-V Real-Time Computational CMOS Image Sensor With Programmable Kernel for Feature Extraction. IEEE Journal of Solid-State Circuits, 2021, 56, 1588-1596.	5.4	35
22	Development of a Dual MOS Electronic Nose/Camera System for Improving Fruit Ripeness Classification. Sensors, 2018, 18, 3256.	3.8	33
23	An Inductive Power and Data Telemetry Subsystem With Fast Transient Low Dropout Regulator for Biomedical Implants. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 435-444.	4.0	29
24	Cholesteric liquid crystal-carbon nanotube hybrid architectures for gas detection. Applied Physics Letters, 2012, 100, .	3.3	28
25	Development of an electronic-nose system for fruit maturity and quality monitoring. , 2018, , .		26
26	Polymer/Ordered Mesoporous Carbon Nanocomposite Platelets as Superior Sensing Materials for Gas Detection with Surface Acoustic Wave Devices. Langmuir, 2012, 28, 11639-11645.	3.5	24
27	An Analog Multilayer Perceptron Neural Network for a Portable Electronic Nose. Sensors, 2013, 13, 193-207.	3.8	23
28	A Fully Integrated Nose-on-a-Chip for Rapid Diagnosis of Ventilator-Associated Pneumonia. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 765-778.	4.0	22
29	AI Edge Devices Using Computing-In-Memory and Processing-In-Sensor: From System to Device. , 2019, , .		21
30	An Enhanced Input Differential Pair for Low-Voltage Bulk-Driven Amplifiers. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, 29, 1601-1611.	3.1	20
31	An Electronic-Nose Sensor Node Based on a Polymer-Coated Surface Acoustic Wave Array for Wireless Sensor Network Applications. Sensors, 2011, 11, 4609-4621.	3.8	19
32	Two-Way Transpose Multibit 6T SRAM Computing-in-Memory Macro for Inference-Training AI Edge Chips. IEEE Journal of Solid-State Circuits, 2022, 57, 609-624.	5.4	18
33	Hardware Friendly Probabilistic Spiking Neural Network With Long-Term and Short-Term Plasticity. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 2063-2074.	11.3	16
34	Improving classification accuracy of SSVEP based BCI using RBF SVM with signal quality evaluation. , 2014, , .		15
35	A Concentration-Based Drift Calibration Transfer Learning Method for Gas Sensor Array Data. , 2020, 4, 1-4.		14
36	A Local Weighted Nearest Neighbor Algorithm and a Weighted and Constrained Least-Squared Method for Mixed Odor Analysis by Electronic Nose Systems. Sensors, 2010, 10, 10467-10483.	3.8	13

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37	A 0.5V Real-Time Computational CMOS Image Sensor with Programmable Kernel for Always-On Feature Extraction. , 2019, , .		13
38	Detection of third-hand smoke on clothing fibers with a surface acoustic wave gas sensor. Biomicrofluidics, 2016, 10, 011907.	2.4	12
39	A Batteryless and Single-Inductor DC-DC Boost Converter for Thermoelectric Energy Harvesting Application with 190mV Cold-Start Voltage. , 2018, , .		12
40	A miniature electronic nose system based on an MWNTâ€"polymer microsensor array and a low-power signal-processing chip. Analytical and Bioanalytical Chemistry, 2014, 406, 3985-3994.	3.7	11
41	A Gas Mixture Prediction Model Based on the Dynamic Response of a Metal-Oxide Sensor. Micromachines, 2019, 10, 598.	2.9	11
42	A 0.8 V Multimode Vision Sensor for Motion and Saliency Detection With Ping-Pong PWM Pixel. IEEE Journal of Solid-State Circuits, 2021, 56, 2516-2524.	5.4	11
43	A 0.8V Intelligent Vision Sensor with Tiny Convolutional Neural Network and Programmable Weights Using Mixed-Mode Processing-in-Sensor Technique for Image Classification. , 2022, , .		10
44	Active noise cancellation of motion artifacts in pulse oximetry using isobestic wavelength light source. , 2011, , .		9
45	A 0.3-V Conductance-Based Silicon Neuron in 0.18 Î¼m CMOS Process. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 3209-3213.	3.0	9
46	Development of a breath detection method based E-nose system for lung cancer identification. , 2018, , .		8
47	Detection of Cigarette Smoke Using a Surface-Acoustic-Wave Gas Sensor with Non-Polymer-Based Oxidized Hollow Mesoporous Carbon Nanospheres. Micromachines, 2019, 10, 276.	2.9	8
48	A Relaxed Quantization Training Method for Hardware Limitations of Resistive Random Access Memory (ReRAM)-Based Computing-in-Memory. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2020, 6, 45-52.	1.5	8
49	MARS: Multimacro Architecture SRAM CIM-Based Accelerator With Co-Designed Compressed Neural Networks. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2022, 41, 1550-1562.	2.7	8
50	Wireless data and power transmission circuits in biomedical implantable applications. , 2011, , .		7
51	A wearable Electronic Nose SoC for healthier living. , 2011, , .		7
52	A 10-bit 1kS/s-30kS/s successive approximation register analog-to-digital converter for biological signal acquisition. , 2013, , .		7
53	A Bio-Inspired Two-Layer Sensing Structure of Polypeptide and Multiple-Walled Carbon Nanotube to Sense Small Molecular Gases. Sensors, 2015, 15, 5390-5401.	3.8	7
54	A 0.5-V 1.28-MS/s 10-bit SAR ADC with switching detect logic. , 2015, , .		7

#	ARTICLE	IF	CITATIONS
55	Wireless power and data transmission with ASK demodulator and power regulator for a biomedical implantable SOC. , 2009, , .		6
56	An 8&#x03BC;W 100kS/s successive approximation ADC for biomedical applications. , 2009, , .		6
57	An electronic-nose sensor node based on polymer-coated surface acoustic wave array for environmental monitoring. , 2010, , .		6
58	A scalable and adaptable probabilistic model embedded in an electronic nose for intelligent sensor fusion. , 2015, , .		6
59	On-chip Learning of Multilayer Perceptron Based on Memristors with Limited Multilevel States. , 2019, , .		6
60	An adjustable 0.3 V current winnerâ€takeâ€all circuit for analogue neural networks. Electronics Letters, 2021, 57, 685-687.	1.0	6
61	Gas sensor array based on surface acoustic wave devices for rapid multi-detection. , 2012, , .		5
62	An embedded probabilistic neural network with on-chip learning capability. , 2013, , .		5
63	A wireless power transmission subsystem with capacitor-less high PSR LDO and thermal protection mechanism for artificial retina application. , 2015, , .		5
64	Highly sensitive and portable gas sensing system based on reduced graphene oxide. Tsinghua Science and Technology, 2016, 21, 435-441.	6.1	5
65	A 1-V 2.6-mW Environmental Compensated Fully Integrated Nose-on-a-Chip. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 1365-1369.	3.0	5
66	An Electronic Nose System for Rapid Detection of Ketamine Smoke. , 2019, 3, 1-4.		5
67	An Energy-Efficient SAR ADC With Event-Triggered Error Correction. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 723-727.	3.0	5
68	A Fully Integrated High-Power-Supply-Rejection Linear Regulator With an Output-Supplied Voltage Reference. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 3828-3838.	5.4	5
69	A Minimum Distance Inlier Probability (MDIP) Feature Selection Method to Improve Gas Classification for Electronic Nose Systems. IEEE Access, 2020, 8, 133928-133935.	4.2	5
70	POPPINS: A Population-Based Digital Spiking Neuromorphic Processor with Integer Quadratic Integrate-and-Fire Neurons. , 2021, , .		5
71	An Adjustable Dual-Output Current Mode MOSFET-Only Filter. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1817-1821.	3.0	5
72	0.4-V Tail-Less Quasi-Two-Stage OTA Using a Novel Self-Biasing Transconductance Cell. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 2805-2818.	5.4	5

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73	A digitally trimmable low-noise low-power analog front-end for EEG signal acquisition. , 2012, , .		4
74	A pulse oximetry system with motion artifact reduction based on Fourier analysis. , 2014, , .		4
75	A Low Noise CMOS Readout Based on a Polymer-Coated SAW Array for Miniature Electronic Nose. Sensors, 2016, 16, 1777.	3.8	3
76	Handheld Gas Sensing System. , 2015, , 155-190.		3
77	A portable electronic nose system that can detect fruity odors. , 2009, , .		2
78	A 90 nm CMOS low noise readout front-end for portable biopotential signal acquisition. , 2012, , .		2
79	A SAR ADC with energy-efficient DAC and tri-level switching scheme. , 2013, , .		2
80	An implantable microsystem for long-term study on the mechanism of deep brain stimulation. , 2013, , .		2
81	Design of a 0.5 V 1.68mW nose-on-a-chip for rapid screen of chronic obstructive pulmonary disease. , 2016, , .		2
82	A high learning capability probabilistic spiking neural network chip. , 2018, , .		2
83	A 12V-500&#x00B5;A neuron stimulator with current calibration mechanism in 0.18&#x00B5;m standard CMOS process. , 2011, , .		1
84	A physiological valence/arousal model from musical rhythm to heart rhythm. , 2011, , .		1
85	Live demonstration: A smart portable electronic nose system for fruity odors identification. , 2012, , .		1
86	A wireless pulse oximetry system with active noise cancellation of motion artifacts. , 2012, , .		1
87	An on-chip learning, low-power probabilistic spiking neural network with long-term memory. , 2013, , .		1
88	A signal acquisition and processing chip with built-in cluster for chemiresistive gas sensor array. , 2014, , .		1
89	Extraction of EEG signals during L/R hand motor imagery based on ERD/S. , 2017, , .		1
90	A 0.7 V Capacitance-To-Digital Converter for Interdigitated Electrode Capacitive Vapor Sensors. , 2017, , .		1

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91	A CMOS compatible miniature gas sensing system. , 2019, , 237-252.		1
92	Low-Voltage Implementation of Neuromorphic Circuits for a Spike-Based Learning Control Module. IEEE Access, 2022, 10, 2619-2630.	4.2	1
93	A Transferable Feature-Based Classifier to Improve Transferability of Electronic Nose Systems. , 2022, 6, 1-4.		1
94	Multi-input silicon neuron with weighting adaptation. , 2009, , .		0
95	Polymer-coated surface acoustic wave sensor array for low concentration NH_3 detection. , 2011, , .		0
96	CMOS surface acoustic wave oscillator with low noise synchronous type readout circuits. , 2012, , .		0
97	An implantable microsystem for studying the Parkinson's Disease. , 2012, , .		0
98	Challenges in circuits for visual prostheses. , 2013, , .		0
99	A swept-field multi-channel aspiration condenser for low-ppm level detection. , 2014, , .		0
100	Guest Editorial Microwatts Wireless Technologies. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2014, 4, 245-247.	3.6	0
101	An automatic gain control amplifier for high voltage spindle recording. , 2017, , .		0
102	A 0.65-V 10-bit 320-kS/s SAR-ADC with Charge Average and Skip Switching Algorithm. , 2018, , .		0
103	An Area-Efficient Differential Serial DAC with Mismatch Compensation Scheme. , 2018, , .		0
104	A fast gas concentration estimation method based on metal-oxide-semiconductor gas sensors. , 2018, , .		0
105	Incoming Editorial. IEEE Transactions on Biomedical Circuits and Systems, 2022, 16, 2-2.	4.0	0