

# Himanshu Thapliyal

## List of Publications by Year in descending order

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Version: 2024-02-01

97  
papers

2,103  
citations

331670

21  
h-index

330143

37  
g-index

98  
all docs

98  
docs citations

98  
times ranked

1199  
citing authors

#	ARTICLE	IF	CITATIONS
1	Adiabatic Logic Based Energy-Efficient Security for Smart Consumer Electronics. IEEE Consumer Electronics Magazine, 2022, 11, 57-64.	2.3	5
2	Approximate Adiabatic Logic for Low-Power and Secure Edge Computing. IEEE Consumer Electronics Magazine, 2022, 11, 88-94.	2.3	3
3	Fortifying Vehicular Security through Low Overhead Physically Unclonable Functions. ACM Journal on Emerging Technologies in Computing Systems, 2022, 18, 1-18.	2.3	8
4	Humans in the Loop: Cybersecurity Aspects in the Consumer IoT Context. IEEE Consumer Electronics Magazine, 2022, 11, 78-84.	2.3	6
5	Machine Learning Based Stress Monitoring in Older Adults Using Wearable Sensors and Cortisol as Stress Biomarker. Journal of Signal Processing Systems, 2022, 94, 513-525.	2.1	23
6	2-Phase Adiabatic Logic for Low-Energy and CPA-Resistant Implantable Medical Devices. IEEE Transactions on Consumer Electronics, 2022, 68, 47-56.	3.6	2
7	Edge Device Based Stress Detection For Older Adults With Cortisol Biomarker. , 2022, , .		0
8	The effect of trust and its antecedents towards determining users'™ behavioral intention with voice-based consumer electronic devices. Heliyon, 2022, 8, e09271.	3.2	17
9	Quantum circuit designs of carry lookahead adder optimized for T-count T-depth and qubits. Sustainable Computing: Informatics and Systems, 2021, 29, 100457.	2.2	9
10	An Integrated TRNG-PUF Architecture Based on Photovoltaic Solar Cells. IEEE Consumer Electronics Magazine, 2021, 10, 99-105.	2.3	7
11	Quantum Circuit Designs of Integer Division Optimizing T-count and T-depth. IEEE Transactions on Emerging Topics in Computing, 2021, 9, 1045-1056.	4.6	33
12	2-SPGAL: 2-Phase Symmetric Pass Gate Adiabatic Logic for Energy-Efficient Secure Consumer IoT. , 2021, , .		2
13	Novel Secure MTJ/CMOS Logic (SMCL) for Energy-Efficient and DPA-Resistant Design. SN Computer Science, 2021, 2, 1.	3.6	3
14	Smart Wristband-Based Stress Detection Framework for Older Adults With Cortisol as Stress Biomarker. IEEE Transactions on Consumer Electronics, 2021, 67, 30-39.	3.6	28
15	Machine Learning-Based Anxiety Detection in Older Adults Using Wristband Sensors and Context Feature. SN Computer Science, 2021, 2, 1.	3.6	13
16	A Review of Machine Learning Classification Using Quantum Annealing for Real-World Applications. SN Computer Science, 2021, 2, 1.	3.6	24
17	Wearable Health Monitoring System for Older Adults in a Smart Home Environment. , 2021, , .		11
18	Low-Energy and CPA-Resistant Adiabatic CMOS/MTJ Logic for IoT Devices. , 2021, , .		1

#	ARTICLE	IF	CITATIONS
19	Physical Unclonable Function (PUF)-Based Sustainable Cybersecurity. IEEE Consumer Electronics Magazine, 2021, 10, 79-80.	2.3	3
20	Machine Learning Based Prediction of Future Stress Events in a Driving Scenario. , 2021, , .		2
21	EE-ACML: Energy-Efficient Adiabatic CMOS/MTJ Logic for CPA-Resistant IoT Devices. Sensors, 2021, 21, 7651.	3.8	4
22	Single-Rail Adiabatic Logic for Energy-Efficient and CPA-Resistant Cryptographic Circuit in Low-Frequency Medical Devices. IEEE Open Journal of Nanotechnology, 2021, , 1-1.	2.0	2
23	Quasi-Adiabatic SRAM Based Silicon Physical Unclonable Function. SN Computer Science, 2020, 1, 1.	3.6	4
24	Low-Power and Energy-Efficient Full Adders With Approximate Adiabatic Logic for Edge Computing. , 2020, , .		5
25	A PUF Based CAN Security Framework. , 2020, , .		2
26	Exploration of Solar Cell Materials for Developing Novel PUFs in Cyber-Physical Systems. SN Computer Science, 2020, 1, 1.	3.6	2
27	PPG Based Continuous Blood Pressure Monitoring Framework for Smart Home Environment. , 2020, , .		2
28	2-Phase Energy-Efficient Secure Positive Feedback Adiabatic Logic for CPA-Resistant IoT Devices. , 2020, , .		5
29	Validating Physiological Stress Detection Model Using Cortisol as Stress Bio Marker. , 2020, , .		8
30	Machine Learning Based Solutions for Real-Time Stress Monitoring. IEEE Consumer Electronics Magazine, 2020, 9, 34-41.	2.3	46
31	Design of Adiabatic Logic-Based Energy-Efficient and Reliable PUF for IoT Devices. ACM Journal on Emerging Technologies in Computing Systems, 2020, 16, 1-18.	2.3	16
32	Special Session: Quantum Carry Lookahead Adders for NISQ and Quantum Image Processing. , 2020, , .		3
33	Design of Quantum Circuits for Cryptanalysis and Image Processing Applications. , 2019, , .		1
34	Hardware Security Primitives for Vehicles. IEEE Consumer Electronics Magazine, 2019, 8, 99-103.	2.3	14
35	Use of Thermistor Temperature Sensors for Cyber-Physical System Security. Sensors, 2019, 19, 3905.	3.8	19
36	Solving Energy and Cybersecurity Constraints in IoT Devices Using Energy Recovery Computing. , 2019, , .		1

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37	Quantum Computing Circuits and Devices. IEEE Design and Test, 2019, 36, 69-94.	1.2	42
38	Exploration of Non-Volatile MTJ/CMOS Circuits for DPA-Resistant Embedded Hardware. IEEE Transactions on Magnetics, 2019, 55, 1-8.	2.1	12
39	Design of Quantum Computing Circuits. IT Professional, 2019, 21, 22-26.	1.5	9
40	Quantum Circuit Design of a T-count Optimized Integer Multiplier. IEEE Transactions on Computers, 2019, 68, 729-739.	3.4	56
41	Design of a Piezoelectric-Based Physically Unclonable Function for IoT Security. IEEE Internet of Things Journal, 2019, 6, 2770-2777.	8.7	24
42	On the design of quaternary arithmetic logic unit based on CNTFETs. International Journal of Electronics Letters, 2019, 7, 1-13.	1.2	7
43	EE-SPFAL: A Novel Energy-Efficient Secure Positive Feedback Adiabatic Logic for DPA Resistant RFID and Smart Card. IEEE Transactions on Emerging Topics in Computing, 2019, 7, 281-293.	4.6	33
44	Energy-recovery based hardware security primitives for low-power embedded devices. , 2018, , .		2
45	IoT based indoor location detection system for smart home environment. , 2018, , .		32
46	FinSAL: FinFET-Based Secure Adiabatic Logic for Energy-Efficient and DPA Resistant IoT Devices. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 110-122.	2.7	47
47	Internet of Things-Based Consumer Electronics: Reviewing Existing Consumer Electronic Devices, Systems, and Platforms and Exploring New Research Paradigms. IEEE Consumer Electronics Magazine, 2018, 7, 66-67.	2.3	30
48	Towards Photoplethysmogram Based Non-Invasive Blood Pressure Classification. , 2018, , .		3
49	T-count Optimized Quantum Circuits for Bilinear Interpolation. , 2018, , .		3
50	Amazon Echo Enabled IoT Home Security System for Smart Home Environment. , 2018, , .		6
51	Energy-Efficient Design of Hybrid MTJ/CMOS and MTJ/Nanoelectronics Circuits. IEEE Transactions on Magnetics, 2018, 54, 1-8.	2.1	41
52	Solar Cell Based Physically Unclonable Function for Cybersecurity in IoT Devices. , 2018, , .		6
53	Heuristic Based Majority/Minority Logic Synthesis for Emerging Technologies. , 2017, , .		7
54	Efficient Circuit Design of Reversible Square. Lecture Notes in Computer Science, 2017, , 33-46.	1.3	1

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55	Energy-efficient magnetic circuits based on nanoelectronic devices. , 2017, , .		8
56	Stress Detection and Management: A Survey of Wearable Smart Health Devices. IEEE Consumer Electronics Magazine, 2017, 6, 64-69.	2.3	65
57	Design of Quantum Circuits for Galois Field Squaring and Exponentiation. , 2017, , .		5
58	Adiabatic Computing Based Low-Power and DPA-Resistant Lightweight Cryptography for IoT Devices. , 2017, , .		8
59	Automatic synthesis of quaternary quantum circuits. Journal of Supercomputing, 2017, 73, 1733-1759.	3.6	9
60	Design exploration of a Symmetric Pass Gate Adiabatic Logic for energy-efficient and secure hardware. The Integration VLSI Journal, 2017, 58, 369-377.	2.1	33
61	Low-Power and Secure Lightweight Cryptography Via TFET-Based Energy Recovery Circuits. , 2017, , .		14
62	Quantum Circuit Designs of Integer Division Optimizing T-Count and T-Depth. , 2017, , .		14
63	Security Evaluation of MTJ/CMOS Circuits Against Power Analysis Attacks. , 2017, , .		5
64	Exploring Human Body Communications for IoT Enabled Ambulatory Health Monitoring Systems. , 2016, , .		8
65	IoT-Based Fall Detection for Smart Home Environments. , 2016, , .		32
66	QUALPUF. , 2016, , .		17
67	Mapping of Subtractor and Adder-Subtractor Circuits on Reversible Quantum Gates. Lecture Notes in Computer Science, 2016, , 10-34.	1.3	32
68	Design of a multilayer fiveâ€¢input majority gate and adder/subtractor circuits in NML computing. Electronics Letters, 2016, 52, 1618-1620.	1.0	4
69	A Survey of Affective Computing for Stress Detection: Evaluating technologies in stress detection for better health. IEEE Consumer Electronics Magazine, 2016, 5, 44-56.	2.3	199
70	Energy-Efficient and Secure S-Box Circuit Using Symmetric Pass Gate Adiabatic Logic. , 2016, , .		11
71	FinSAL: A novel FinFET based Secure Adiabatic Logic for energy-efficient and DPA resistant IoT devices. , 2016, , .		6
72	Design procedures and NML cost analysis of reversible barrel shifters optimizing garbage and ancilla lines. Journal of Supercomputing, 2016, 72, 1092-1124.	3.6	2

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73	Ancilla-input and garbage-output optimized design of a reversible quantum integer multiplier. Journal of Supercomputing, 2016, 72, 1477-1493.	3.6	43
74	Design of adder and subtractor circuits in majority logic-based field-coupled QCA nanocomputing. Electronics Letters, 2016, 52, 464-466.	1.0	96
75	Design Methodologies for Reversible Logic Based Barrel Shifters. Journal of Circuits, Systems and Computers, 2016, 25, 1650003.	1.5	4
76	Smart Home System for Patients with Mild Cognitive Impairment. , 2015, , .		5
77	Evaluation of Wearable Head Set Devices in Older Adult Populations for Research. , 2015, , .		9
78	Reversible logic based multiplication computing unit using binary tree data structure. Journal of Supercomputing, 2015, 71, 2668-2693.	3.6	19
79	Reversible Logic Based Mapping of Quaternary Sequential Circuits Using QGFSOP Expression. , 2015, , .		4
80	Reversible Logic Based Design and Test of Field Coupled Nanocomputing Circuits. Lecture Notes in Computer Science, 2014, , 133-172.	1.3	3
81	Design of Testable Reversible Sequential Circuits. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 1201-1209.	3.1	120
82	Design of efficient reversible logic-based binary and BCD adder circuits. ACM Journal on Emerging Technologies in Computing Systems, 2013, 9, 1-31.	2.3	56
83	Progress in Reversible Processor Design: A Novel Methodology for Reversible Carry Look-Ahead Adder. Lecture Notes in Computer Science, 2013, , 73-97.	1.3	32
84	Mach-Zehnder Interferometer Based All Optical Reversible NOR Gates. , 2012, , .		29
85	A new design of the reversible subtractor circuit. , 2011, , .		56
86	Design of a reversible bidirectional barrel shifter. , 2011, , .		21
87	A new reversible design of BCD adder. , 2011, , .		43
88	Design of a reversible floating-point adder architecture. , 2011, , .		18
89	Reversible Logic-Based Concurrently Testable Latches for Molecular QCA. IEEE Nanotechnology Magazine, 2010, 9, 62-69.	2.0	115
90	Reversible logic based concurrent error detection methodology for emerging nanocircuits. , 2010, , .		15

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91	Design of Reversible Latches Optimized for Quantum Cost, Delay and Garbage Outputs. , 2010, , .		44
92	Design of a reversible single precision floating point multiplier based on operand decomposition. , 2010, , .		24
93	Design of A ternary barrel shifter using multiple-valued reversible logic. , 2010, , .		28
94	Design of Efficient Reversible Binary Subtractors Based on a New Reversible Gate. , 2009, , .		102
95	Efficient Reversible Logic Design of BCD Subtractors. Lecture Notes in Computer Science, 2009, , 99-121.	1.3	18
96	Testable Reversible Latches for Molecular QCA. , 2008, , .		22
97	Combined Integer and Floating Point Multiplication Architecture(CIFM) for FPGAs and Its Reversible Logic Implementation. Midwest Symposium on Circuits and Systems, 2006, , .	1.0	10