Seok-Bum Ko

List of Publications by Year
in descending order

177 papers	2,441 citations	331259 21 h-index	288905 40 g-index
178 all docs	178 docs citations	178 times ranked	1881 citing authors

#	Article	IF	Citations
1	Design of Power and Area Efficient Approximate Multipliers. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2017, 25, 1782-1786.	2.1	245
2	Retinal blood vessel segmentation using fully convolutional network with transfer learning. Computerized Medical Imaging and Graphics, 2018, 68, 1-15.	3.5	158
3	Noninvasive cuffless blood pressure estimation using pulse transit time and Hilbertâ€“Huang transform. Computers and Electrical Engineering, 2013, 39, 103-111.	3.0	101
4	Breast Cancer Classification in Automated Breast Ultrasound Using Multiview Convolutional Neural Network with Transfer Learning. Ultrasound in Medicine and Biology, 2020, 46, 1119-1132.	0.7	94
5	Design and Analysis of Area and Power Efficient Approximate Booth Multipliers. IEEE Transactions on Computers, 2019, 68, 1697-1703.	2.4	81
6	COVID-CXNet: Detecting COVID-19 in frontal chest X-ray images using deep learning. Multimedia Tools and Applications, 2022, 81, 30615-30645.	2.6	74
7	Fast, accurate and robust retinal vessel segmentation system. Biocybernetics and Biomedical Engineering, 2017, 37, 412-421.	3.3	69
8	A Fall and Near-Fall Assessment and Evaluation System. Open Biomedical Engineering Journal, 2009, 3, 1-7.	0.7	69
9	A high performance ECC hardware implementation with instruction-level parallelism over GF(2163). Microprocessors and Microsystems, 2010, 34, 228-236.	1.8	49
10	Scalable Elliptic Curve Cryptosystem FPGA Processor for NIST Prime Curves. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 2753-2756.	2.1	43
11	High-Speed Parallel Decimal Multiplication with Redundant Internal Encodings. IEEE Transactions on Computers, 2013, 62, 956-968.	2.4	41
12	License plate segmentation and recognition system using deep learning and OpenVINO. IET Intelligent Transport Systems, 2020, 14, 119-126.	1.7	40
13	Efficient Multiple-Precision Floating-Point Fused Multiply-Add with Mixed-Precision Support. IEEE Transactions on Computers, 2019, 68, 1035-1048.	2.4	38
14	Stride 2 1-D, 2-D, and 3-D Winograd for Convolutional Neural Networks. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2020, 28, 853-863.	2.1	38
15	Continuous shading and its fast update in fully analytic triangular-mesh-based computer generated hologram. Optics Express, 2015, 23, 33893.	1.7	33
16	Area-Efficient Nano-AES Implementation for Internet-of-Things Devices. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, 29, 136-148.	2.1	32
17	Efficient Posit Multiply-Accumulate Unit Generator for Deep Learning Applications. , 2019, , .		26
18	New Flexible Multiple-Precision Multiply-Accumulate Unit for Deep Neural Network Training and Inference. IEEE Transactions on Computers, 2020, 69, 26-38.	2.4	26

#	Article	IF	Citations
19	Design and analysis of novel QCA full adder-subtractor. International Journal of Electronics Letters, 2021, 9, 287-300.	0.7	26
20	Efficient hardware implementation of an image compressor for wireless capsule endoscopy applications. , 2008, , .		25
21	Early detection of ankylosing spondylitis using texture features and statistical machine learning, and deep learning, with some patient age analysis. Computerized Medical Imaging and Graphics, 2020, 82, 101718.	3.5	25
22	Floating-Point Butterfly Architecture Based on Binary Signed-Digit Representation. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 1208-1211.	2.1	23
23	Power Efficient Approximate Booth Multiplier. , 2018, , .		23
24	Design of Power Efficient Posit Multiplier. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 861-865.	2.2	23
25	Deep Learning for the Classification of Small (â‰¤2 cm) Pulmonary Nodules on CT Imaging: A Preliminary Study. Academic Radiology, 2020, 27, e55-e63.	1.3	22
26	High performance scalable elliptic curve cryptosystem processor for Koblitz curves. Microprocessors and Microsystems, 2013, 37, 394-406.	1.8	21
27	Bandwidth-aware routing and admission control for efficient video streaming over MANETs. Wireless Networks, 2015, 21, 95-114.	2.0	20
28	Occlusion handling using angular spectrum convolution in fully analytical mesh based computer generated hologram. Optics Express, 2017, 25, 25867.	1.7	20
29	Approximate Sum-of-Products Designs Based on Distributed Arithmetic. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 1604-1608.	2.1	19
30	Efficient Fixed/Floating-Point Merged Mixed-Precision Multiply-Accumulate Unit for Deep Learning Processors. , 2018, , .		19
31	Configurable Logic Blocks and Memory Blocks for Beyond-CMOS FPGA-Based Embedded Systems. IEEE Embedded Systems Letters, 2020, 12, 113-116.	1.3	19
32	High throughput and areaâ€efficient FPGA implementation of AES for highâ€traffic applications. IET Computers and Digital Techniques, 2020, 14, 344-352.	0.9	19
33	Improved license plate localisation algorithm based on morphological operations. IET Intelligent Transport Systems, 2018, 12, 542-549.	1.7	18
34	A Self-Adaptive Mapping Approach for Network on Chip With Low Power Consumption. IEEE Access, 2019, 7, 84066-84081.	2.6	18
35	Novel convolutional neural network architecture for improved pulmonary nodule classification on computed tomography. Multidimensional Systems and Signal Processing, 2020, 31, 1163-1183.	1.7	18
36	Area and power efficient post-quantum cryptosystem for IoT resource-constrained devices. Microprocessors and Microsystems, 2021, 84, 104280.	1.8	18

#	Article	IF	Citations
37	Improving the Detection of Explosives in a MOX Chemical Sensors Array With LSTM Networks. IEEE Sensors Journal, 2020, 20, 14302-14309.	2.4	17
38	A Study on the Floating-Point Adder in FPGAS. , 2006, , .		16
39	Improved Decimal Floating-Point Logarithmic Converter Based on Selection by Rounding. IEEE Transactions on Computers, 2012, 61, 607-621.	2.4	16
40	Fast Quantum-Dot Cellular Automata Adder/Subtractor Using Novel Fault Tolerant Exclusive-or Gate and Full Adder. International Journal of Theoretical Physics, 2019, 58, 3049-3064.	0.5	16
41	Design of Approximate Restoring Dividers. , 2019, , .		16
42	KBMA: A knowledgeâ€based multiâ€objective application mapping approach for 3D NoC. IET Computers and Digital Techniques, 2019, 13, 324-334.	0.9	16
43	Design of reversible universal and multifunctional gate-based 1-bit full adder and full subtractor in quantum-dot cellular automata nanocomputing. Journal of Nanophotonics, 2020, 14, 1.	0.4	16
44	Performance Analysis of Bit-Width Reduced Floating-Point Arithmetic Units in FPGAs: A Case Study of Neural Network-Based Face Detector. Eurasip Journal on Embedded Systems, 2009, 2009, 1-11.	1.2	15
45	Lossless implementation of Daubechies 8-tap wavelet transform. , 2011, , .		14
46	Areaâ€and powerâ€efficient iterative single/doubleâ€precision merged floatingâ€point multiplier on FPGA. IET Computers and Digital Techniques, 2017, 11, 149-158.	0.9	14
47	Approximate Restoring Dividers Using Inexact Cells and Estimation From Partial Remainders. IEEE Transactions on Computers, 2020, 69, 468-474.	2.4	14
48	A low cost fault-attack resilient AES for IoT applications. Microelectronics Reliability, 2021, 123, 114202.	0.9	14
49	Data acquisition system using six degree-of-freedom inertia sensor and Zigbee wireless link for fall detection and prevention. , 2008, 2008, 2353-6.		13
50	Design of quantumâ€dot cellular automataâ€based communication system using modular Nâ€bit binary to gray and gray to binary converters. International Journal of Communication Systems, 2021, 34, e4702.	1.6	13
51	Deep learningâ€based embedded license plate localisation system. IET Intelligent Transport Systems, 2019, 13, 1569-1578.	1.7	12
52	Energy-Efficient Approximate MAC Unit. , 2019, , .		12
53	Hybrid Architecture and VLSI Implementation ofÂtheÂCosineâ€“Fourierâ€“Haar Transforms. Circuits, Systems, and Signal Processing, 2010, 29, 1193-1205.	1.2	11
54	Parallelization of scalable elliptic curve cryptosystem processors in GF (2 m). Microprocessors and Microsystems, 2016, 45, 10-22.	1.8	11

#	Article	IF	Citations
55	High performance and energy efficient singleâ€precision and doubleâ€precision merged floatingâ€point adder on FPGA. IET Computers and Digital Techniques, 2018, 12, 20-29.	0.9	11
56	Flexible elliptic curve cryptography coprocessor using scalable finite field arithmetic blocks on FPGAs. Microprocessors and Microsystems, 2018, 63, 182-189.	1.8	11
57	Assessing the speed-accuracy trade-offs of popular convolutional neural networks for single-crop rib fracture classification. Computerized Medical Imaging and Graphics, 2021, 91, 101937.	3.5	11
58	Segmentation for document layout analysis: not dead yet. International Journal on Document Analysis and Recognition, 2022, 25, 67-77.	2.7	11
59	Effective implementation of floating-point adder using pipelined LOP in FPGAs. , 0, , .		10
60	FPGA Implementation of a Face Detector using Neural Networks. , 2006, , .		10
61	Design tradeoff analysis of floating-point adders in FPGAs. Canadian Journal of Electrical and Computer Engineering, 2008, 33, 169-175.	1.5	10
62	A 32-bit Decimal Floating-Point Logarithmic Converter. , 2009, , .		10
63	A high performance pseudo-multi-core ECC processor over GF(2¹⁶³). , 2010, , .		10
64	Enhanced Noxim simulator for performance evaluation of network on chip topologies. , 2014, , .		10
65	FPGA implementation of low latency scalable Elliptic Curve Cryptosystem processor in GF(2^m). , 2014, , .		10
66	Wavelet based medical image super resolution using cross connected residual-in-dense grouped convolutional neural network. Journal of Visual Communication and Image Representation, 2020, 70, 102819.	1.7	10
67	Capsule GAN for prostate MRI super-resolution. Multimedia Tools and Applications, 2022, 81, 4119-4141.	2.6	10
68	Efficient Realization of Parity Prediction Functions in FPGAs. Journal of Electronic Testing: Theory and Applications (JETTA), 2004, 20, 489-499.	0.9	9
69	A heart rate sensor based on seismocardiography for vital sign monitoring systems. , 2011, , .		9
70	High Speed Generic Network Interface for Network on Chip Using Ping Pong Buffers. , 2012, , .		9
71	Automated Teeth Extraction from Dental Panoramic X-Ray Images using Genetic Algorithm. , 2020, , .		9
72	Joint restoration convolutional neural network for low-quality image super resolution. Visual Computer, 2022, 38, 31-50.	2.5	9

#	Article	IF	Citations
73	Residual learning based densely connected deep dilated network for joint deblocking and super resolution. Applied Intelligence, 2020, 50, 2177-2193.	3.3	9
74	Pulse transit time-based blood pressure estimation using hilbert-huang transform. , 2009, 2009, 1785-8.		8
75	High-frequency sequential decimal multipliers. , 2012, , .		8
76	CARM: Congestion Adaptive Routing Method for On Chip Networks. , 2014, , .		8
77	Design and verification of an efficient WISHBONE-based network interface for network on chip. Computers and Electrical Engineering, 2014, 40, 1838-1857.	3.0	8
78	MSG-CapsGAN: Multi-Scale Gradient Capsule GAN for Face Super Resolution. , 2020, , .		8
79	A Real-Time Architecture for Pruning the Effectual Computations in Deep Neural Networks. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 2030-2041.	3.5	8
80	InGaN/bivalent fluorescein salt luminescence conversion light-emitting diode: Stability and photochemical reaction. Journal of Luminescence, 2007, 127, 665-670.	1.5	7
81	An efficient YUV-based image compression algorithm for wireless capsule endoscopy. , 2011, , .		7
82	Dynamic Partial Reconfigurable FFT for OFDM Based Communication Systems. Circuits, Systems, and Signal Processing, 2012, 31, 1049-1066.	1.2	7
83	Dynamic partial reconfigurable Viterbi decoder for wireless standards. Computers and Electrical Engineering, 2013, 39, 164-174.	3.0	7
84	Efficient spiking neural network training and inference with reduced precision memory and computing. IET Computers and Digital Techniques, 2019, 13, 397-404.	0.9	7
85	An Improved Low-Power Coding for Serial Network-On-Chip Links. Circuits, Systems, and Signal Processing, 2020, 39, 1896-1919.	1.2	7
86	Capsule GAN for robust face super resolution. Multimedia Tools and Applications, 2020, 79, 31205-31218.	2.6	7
87	Interpretability of artificial intelligence models that use data fusion to predict yield in aeroponics. Journal of Ambient Intelligence and Humanized Computing, 2023, 14, 3331-3342.	3.3	7
88	An Optimised Multivariable Regression Model for Predictive Analysis of Diabetic Disease Progression. IEEE Access, 2021, 9, 99768-99780.	2.6	7
89	A novel decimal-to-decimal logarithmic converter. , 2008, , .		6
90	Efficient hardware implementation of hybrid cosine-fourier-wavelet transforms on a single FPGA. , 2009, , .		6

#	Article	IF	Citations
91	Design of a low power network interface for Network on chip. , 2013, , .		6
92	Area efficient floatingâ€point FFT butterfly architectures based on multiâ€operand adders. Electronics Letters, 2015, 51, 895-897.	0.5	6
93	A Novel Architecture for Early Detection of Negative Output Features in Deep Neural Network Accelerators. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 3332-3336.	2.2	6
94	A novel approach to identify the spectral bands that predict moisture content in canola and wheat. Biosystems Engineering, 2021, 210, 91-103.	1.9	6
95	Energy efficient spiking neural network processing using approximate arithmetic units and variable precision weights. Journal of Parallel and Distributed Computing, 2021, 158, 164-175.	2.7	6
96	Effect of Postural Changes on Baroreflex Sensitivity: A study on the Eurobavar data set. , 2006, , .		5
97	Design and Implementation of Decimal Reciprocal Unit. , 2007, , .		5
98	A new decimal antilogarithmic converter. , 2009, , .		5
99	A Wearable Device for Physical Activity Monitoring With Built-in Heart Rate Variability. , 2009, , .		5
100	A Novel Decimal Logarithmic Converter Based on First-Order Polynomial Approximation. Circuits, Systems, and Signal Processing, 2012, 31, 1179-1190.	1.2	5
101	A dynamic non-uniform segmentation method for first-order polynomial function evaluation. Microprocessors and Microsystems, 2012, 36, 324-332.	1.8	5
102	High performance scalable elliptic curve cryptosystem processor in GF(2^m). , 2013, , .		5
103	Improved design of highâ€frequency sequential decimal multipliers. Electronics Letters, 2014, 50, 558-560.	0.5	5
104	Improved GPU SIMD control flow efficiency via hybrid warp size mechanism. Microprocessors and Microsystems, 2014, 38, 717-729.	1.8	5
105	Deep dilated and densely connected parallel convolutional groups for compression artifacts reduction. , 2020, 106, 102804.		5
106	Efficient Hybrid CMOS/Memristor Implementation of Bidirectional Associative Memory Using Passive Weight Array. Microelectronics Journal, 2020, 98, 104725.	1.1	5
107	Enhancing the Utilization of Processing Elements in Spatial Deep Neural Network Accelerators. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 1947-1951.	1.9	5
108	QCA based cost efficient coplanar 1â€‰Ã—â€‰4 <scp>RAM</scp> design with set/reset ability. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2022, 35, e2946.	1.2	5

#	Article	IF	Citations
109	High Speed Low Power Ping Pong Buffering Based Network Interface for Network on Chip. Journal of Low Power Electronics, 2013, 9, 322-331.	0.6	5
110	Digital Emulation of Analogue CNN System on FPGA. , 2007, , .		4
111	Impulse based range-gated UWB wireless transceiver IC in 90nm CMOS for medical sensing applications and communications. , 2009, , .		4
112	Nonspeculative decimal signed digit adder. , 2011, , .		4
113	Decimal floating-point antilogarithmic converter based on selection by rounding: algorithm and architecture. IET Computers and Digital Techniques, 2012, 6, 277-289.	0.9	4
114	GPU-based Parallel Implementation of SAR Imaging. , 2012, , .		4
115	Decimal SRT Square Root: Algorithm and Architecture. Circuits, Systems, and Signal Processing, 2013, 32, 2137-2150.	1.2	4
116	Reconfigurable distributed fault tolerant routing algorithm for on-chip networks. , 2013, , .		4
117	High-speed FFT processors based on redundant number systems. , 2014, , .		4
118	A novel hybrid topology for Network on Chip. , 2014, , .		4
119	Design of a novel energy efficient topology for maximum magnitude generator. IET Computers and Digital Techniques, 2016, 10, 93-101.	0.9	4
120	High-Speed Architecture for Successive Cancellation Decoder With Split-g Node Block. IEEE Embedded Systems Letters, 2021, 13, 118-121.	1.3	4
121	Reliable SRAM using NANDâ€NOR Gate in beyondâ€CMOS QCA technology. IET Computers and Digital Techniques, 2021, 15, 202-213.	0.9	4
122	Efficient Multiple-Precision Posit Multiplier. , 2021, , .		4
123	Variable-Precision Approximate Floating-Point Multiplier for Efficient Deep Learning Computation. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 2503-2507.	2.2	4
124	FPGA-Based Approximate Multiplier for Efficient Neural Computation. , 2021, , .		4
125	Efficient parity prediction in FPGA. , 0, , .		3
126	Combining ESOP minimization with BDD-based decomposition for improved FPGA synthesis. Canadian Journal of Electrical and Computer Engineering, 2008, 33, 177-182.	1.5	3

#	Article	IF	Citations
127	Convergence Analysis of Jacobi Iterative Method Using Logarithmic Number System. , 2008, , .		3
128	On the fast computation of decimal logarithm. , 2009, , .		3
129	PAPR reduction for improving performance of OFDM system. , 2010, , .		3
130	A novel scalable parallel architecture for biological neural simulations. , 2010, , .		3
131	An efficient YCgCo-based image compression algorithm for capsule endoscopy. , 2011, , .		3
132	Dynamic partial reconfigurable FFT/IFFT pruning for OFDM based Cognitive radio. , 2012, , .		3
133	Dynamic partial reconfigurable adaptive transceiver for OFDM based cognitive radio. , 2013, , .		3
134	Area and power efficient decimal carryâ€free adder. Electronics Letters, 2015, 51, 1852-1854.	0.5	3
135	Ensemble Learning for Improving Generalization in Aeroponics Yield Prediction. , 2020, , .		3
136	Blind compression artifact reduction using dense parallel convolutional neural network. Signal Processing: Image Communication, 2020, 89, 116009.	1.8	3
137	Power efficient error correction coding for onâ€chip interconnection links. IET Computers and Digital Techniques, 2020, 14, 299-312.	0.9	3
138	An ultrawideband balanced antipodal vivaldi antenna for medical imaging applications with performance analysis for different surface finish materials. Analog Integrated Circuits and Signal Processing, 2022, 112, 103-113.	0.9	3
139	Area Minimization of Exclusive-OR Intensive Circuits in FPGAs. Journal of Electronic Testing: Theory and Applications (JETTA), 2004, 20, 661-665.	0.9	2
140	A low-power subsample-based image compression algorithm for capsule endoscopy. , 2012, , .		2
141	Decimal signed digit addition using stored transfer encoding. , 2013, , .		2
142	A novel non-minimal/minimal turn model for highly adaptive routing in 2D NoCs. , 2014, , .		2
143	Area Efficient Sequential Decimal Fixed-point Multiplier. Journal of Signal Processing Systems, 2014, 75, 39-46.	1.4	2
144	Decimal floatingâ€point fused multiplyâ€add with redundant internal encodings. IET Computers and Digital Techniques, 2016, 10, 147-156.	0.9	2

#	Article	IF	Citations
145	Improved Hybrid Memory Cube for Weight-Sharing Deep Convolutional Neural Networks. , 2019, , .		2
146	IoT-Based Intelligent Residential Kitchen Fire Prevention System. Journal of Electrical Engineering and Technology, 2020, 15, 2823-2832.	1.2	2
147	Identifying Useful Features in Multispectral Images with Deep Learning for Optimizing Wheat Yield Prediction. , 2021, , .		2
148	Realâ€time CVSA decals recognition system using deep convolutional neural network architectures. IET Intelligent Transport Systems, 2021, 15, 1359.	1.7	2
149	A new partitioning method for LUT-based FPGAS. , 0, , .		1
150	A new logic synthesis, exorbds. , 0, , .		1
151	An impulse based sensor for medical sensing applications. , 2008, 2008, 5737-40.		1
152	Low-area and low-power video compressor for endoscopic capsules. Canadian Conference on Electrical and Computer Engineering, 2008, , .	0.0	1
153	A fall detection and near-fall data collection system. , 2008, , .		1
154	Improvements for High Performance Elliptic Curve Cryptosystem Processor over GF(2^163). , 2012, , .		1
155	Design and implementation of a Radix-100 division unit. , 2012, , .		1
156	A Low Cost Sensing Device to Detect Cardiac Timing and Function. , 2012, , .		1
157	Improved Design of High-Radix Signed-Digit Adders. , 2012, , .		1
158	Decimal Division Algorithms: The Issue of Partial Remainders. Journal of Signal Processing Systems, 2013, 73, 181-188.	1.4	1
159	QaMC - QoS Aware Multicast router for NoC fabric. , 2014, , .		1
160	Improved adaptive routing for networksâ€onâ€chip. Electronics Letters, 2015, 51, 2092-2094.	0.5	1
161	An FPGA-based Closed-loop Approach of Angular Displacement for a Resolver-to-Digital-Converter. , 2018, , .		1
162	Factorized multi-scale multi-resolution residual network for single image deraining. Applied Intelligence, 2022, 52, 7582-7598.	3.3	1

#	Article	IF	Citations
163	FRDS: An efficient unique on-Chip interconnection network architecture. The Integration VLSI Journal, 2022, 87, 90-103.	1.3	1
164	Studies of the SEMATECH IDDq test data. Journal of Systems Architecture, 2002, 47, 831-846.	2.5	0
165	A novel technology mapping method for AND/XOR expressions. , 0, , .		0
166	Computer model study of magnitude and phase relations of arterial pressure in response to respiratory fluctuations. Canadian Conference on Electrical and Computer Engineering, 2008, , .	0.0	0
167	A decimal-to-decimal antilogarithmic converter. Canadian Conference on Electrical and Computer Engineering, 2008, , .	0.0	0
168	System size independent architecture for Jacobi processor. Canadian Conference on Electrical and Computer Engineering, 2008, , .	0.0	0
169	Performance evaluation of hardware/software codesign of iterative methods of linear systems. , 2009, , .		0
170	Improvements on the design and implementation of DVB-S2 LDPC decoders. Computers and Electrical Engineering, 2011, 37, 1137-1146.	3.0	0
171	Efficient color space-based compression scheme for endoscopic images. , 2012, , .		0
172	Highly adaptive and congestion-aware routing for 3D NoCs. , 2014, , .		0
173	Central Switch Noded Mesh architecture (CSNM). , 2014, , .		0
174	Low-Cost 2-D Map Generation System for a Mobile Robot. , 2019, , .		0
175	Canine Orthosis Adaptation for Automatic Operation with Fuzzy Control. , 2020, , .		0
176	High-performance RISC-V processor with improved dispatch and commit schemes. , 2020, , .		0
177	A Transmission Line Modeling for IR-UWB Radars in Human Body Sensing and Detection. International Review of Aerospace Engineering, 2014, 7, 142.	0.2	0