

Guillermo Botella Juan

List of Publications by Year in descending order

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Version: 2024-02-01

71
papers

786
citations

567144

15
h-index

677027

22
g-index

80
all docs

80
docs citations

80
times ranked

710
citing authors

#	ARTICLE	IF	CITATIONS
1	Robust Bioinspired Architecture for Optical-Flow Computation. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2010, 18, 616-629.	2.1	72
2	Efficient wavelet-based ECG processing for single-lead FHR extraction. , 2013, 23, 1897-1909.		59
3	Quantization analysis and enhancement of a VLSI gradient-based motion estimation architecture. , 2012, 22, 1174-1187.		46
4	Dyna: A heuristic planning reinforcement learning algorithm applied to role-playing game strategy decision systems. Knowledge-Based Systems, 2012, 32, 28-36.	4.0	45
5	A Low Cost Matching Motion Estimation Sensor Based on the NIOS II Microprocessor. Sensors, 2012, 12, 13126-13149.	2.1	30
6	FPGA-Based Multimodal Embedded Sensor System Integrating Low- and Mid-Level Vision. Sensors, 2011, 11, 8164-8179.	2.1	29
7	Deep PeNSieve: A deep learning framework based on the posit number system. , 2020, 102, 102762.		28
8	Acceleration of block-matching algorithms using a custom instruction-based paradigm on a Nios II microprocessor. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	27
9	OSWALD. International Journal of High Performance Computing Applications, 2018, 32, 337-350.	2.4	26
10	Stochastic stability analysis of competitive neural networks with different time-scales. Neurocomputing, 2013, 118, 115-118.	3.5	22
11	GPU-based acceleration of bio-inspired motion estimation model. Concurrency Computation Practice and Experience, 2013, 25, 1037-1056.	1.4	19
12	SWIMM 2.0: Enhanced Smith's Waterman on Intel's Multicore and Manycore Architectures Based on AVX-512 Vector Extensions. International Journal of Parallel Programming, 2019, 47, 296-316.	1.1	19
13	A reconstruction method for electrical capacitance tomography based on image fusion techniques. , 2012, 22, 885-893.		18
14	Optimization of high speed pipelining in FPGA-based FIR filter design using genetic algorithm. , 2012, , .		17
15	Computer-aided diagnosis for diagnostically challenging breast lesions in DCE-MRI based on image registration and integration of morphologic and dynamic characteristics. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	17
16	PLAM: A Posit Logarithm-Approximate Multiplier. IEEE Transactions on Emerging Topics in Computing, 2022, 10, 2079-2085.	3.2	17
17	Bio-inspired robust optical flow processor system for VLSI implementation. Electronics Letters, 2009, 45, 1304.	0.5	16
18	Automated Signature Insertion in Combinational Logic Patterns for HDL IP Core Protection. , 2008, , .		15

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19	Multi-GPU based on multicriteria optimization for motion estimation system. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	15
20	An energy-aware performance analysis of SWIMM: a watermark implementation on Intel's multicore and manycore architectures. Concurrency Computation Practice and Experience, 2015, 27, 5517-5537.	1.4	15
21	Portability Study of an OpenCL Algorithm for Automatic Target Detection in Hyperspectral Images. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 9499-9511.	2.7	15
22	Three-phase four-wire shunt active power filter based on the SOGI filter and Lyapunov function for DC bus control. International Journal of Circuit Theory and Applications, 2020, 48, 887-905.	1.3	14
23	First experiences of teaching quantum computing. Journal of Supercomputing, 2021, 77, 2770-2799.	2.4	14
24	Real-time motion estimation for image and video processing applications. Journal of Real-Time Image Processing, 2016, 11, 625-631.	2.2	13
25	Portable real-time DCT-based steganography using OpenCL. Journal of Real-Time Image Processing, 2018, 14, 87-99.	2.2	13
26	Fast and effective CU size decision based on spatial and temporal homogeneity detection. Multimedia Tools and Applications, 2018, 77, 5907-5927.	2.6	13
27	Smith-Waterman algorithm on heterogeneous systems: A case study. , 2014, , .		12
28	Energy-Efficient MAC Units for Fused Posit Arithmetic. , 2021, , .		11
29	A new area-efficient BCD-digit multiplier. , 2017, 62, 1-10.		10
30	Robust motion estimation on a low-power multi-core DSP. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	9
31	CNN Inference acceleration using low-power devices for human monitoring and security scenarios. Computers and Electrical Engineering, 2020, 88, 106859.	3.0	9
32	Intellectual property protection (IPP) using obfuscation in C, VHDL, and Verilog coding. Proceedings of SPIE, 2011, , .	0.8	8
33	Comparing Different Decodings for Posit Arithmetic. Lecture Notes in Computer Science, 2022, , 84-99.	1.0	8
34	Energy optimization of Application-Specific Instruction-Set Processors by using hardware accelerators in semicustom ICs technology. Microprocessors and Microsystems, 2012, 36, 127-137.	1.8	7
35	Offset Printing Plate Quality Sensor on a Low-Cost Processor. Sensors, 2013, 13, 14277-14300.	2.1	7
36	A Cluster of FPAs to Recognize Images Using Neural Networks. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 3391-3395.	2.2	7

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37	Aerodynamics Analysis Acceleration through Reconfigurable Hardware. , 2008, , .		6
38	Hardware implementation of machine vision systems: image and video processing. Eurasip Journal on Advances in Signal Processing, 2013, 2013, .	1.0	5
39	Extended depth of field in images through complex amplitude pre-processing and optimized digital post-processing. Computers and Electrical Engineering, 2014, 40, 29-40.	3.0	4
40	Area Optimization of Combined Integer and Floating Point Circuits in High-Level Synthesis. , 2008, , .		3
41	Neuromorphic Configurable Architecture for Robust Motion Estimation. International Journal of Reconfigurable Computing, 2008, 2008, 1-9.	0.2	3
42	State-of-the-Art in Smithâ€“Waterman Protein Database Search on HPC Platforms. , 2016, , 197-223.		3
43	Higher-order statistics for power systems: Effects of the sampling frequency on ergodicity. Applied Mathematical Modelling, 2016, 40, 6924-6933.	2.2	3
44	Performance-Power Evaluation of an OpenCL Implementation of the Simplex Growing Algorithm for Hyperspectral Unmixing. IEEE Geoscience and Remote Sensing Letters, 2017, 14, 304-308.	1.4	3
45	Acceleration and energy consumption optimization in cascading classifiers for face detection on low-cost ARM big. LITTLE asymmetric architectures. International Journal of Circuit Theory and Applications, 2018, 46, 1756.	1.3	3
46	HEVC optimization based on human perception for real-time environments. Multimedia Tools and Applications, 2020, 79, 16001-16033.	2.6	3
47	Nios II hardware acceleration of the epsilon quadratic sieve algorithm. Proceedings of SPIE, 2010, , .	0.8	2
48	NIOS II processor-based acceleration of motion compensation techniques. Proceedings of SPIE, 2011, , .	0.8	2
49	Implementation of a Low-Cost Mobile Devices to Support Medical Diagnosis. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-9.	0.7	2
50	Code obfuscation using very long identifiers for FFT motion estimation models in embedded processors. Journal of Real-Time Image Processing, 2016, 11, 817-827.	2.2	2
51	HEVC optimizations for medical environments. , 2016, , .		2
52	Intra-Steganography: Hiding Data in High-Resolution Videos. , 2018, , .		2
53	Securing high-resolution train videos encoded with HEVC and inter prediction mode. Computers in Industry, 2020, 121, 103258.	5.7	2
54	FPGA-Based Acceleration of Block Matching Motion Estimation Techniques. , 2011, , .		1

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55	Optimization of block-matching algorithms using custom instruction-based paradigm on NIOS II microprocessors. , 2013, , .		1
56	Non-negative matrix factorization on low-power architectures. , 2013, , .		1
57	Non-negative Matrix Factorization on Low-Power Architectures and Accelerators: A Comparative Study. Computers and Electrical Engineering, 2015, 46, 139-156.	3.0	1
58	Independent component analysis algorithm FPGA design to perform real-time blind source separation. Proceedings of SPIE, 2015, , .	0.8	1
59	4K-based intra and interprediction techniques for HEVC. Proceedings of SPIE, 2016, , .	0.8	1
60	Custom instruction for NIOS II processor FFT implementation for image processing. , 2016, , .		1
61	Real-Time Motion Processing Estimation Methods in Embedded Systems. , 0, , .		1
62	Neural competitive structures for segmentation based on motion features. Lecture Notes in Computer Science, 2003, , 710-717.	1.0	1
63	FPGA based Architecture for Robust Optical Flow Computation. , 2008, , .		0
64	Exploiting Internal Operation Patterns during the High-Level Synthesis of Time-Constrained Circuits. , 2008, , .		0
65	DSP structure to motion computation on reconfigurable hardware. , 2009, , .		0
66	Enhanced gradient-based motion vector coprocessor. , 2009, , .		0
67	Optical flow optimization using parallel genetic algorithm. Proceedings of SPIE, 2011, , .	0.8	0
68	Customized Nios II multi-cycle instructions to accelerate block-matching techniques. Proceedings of SPIE, 2015, , .	0.8	0
69	Fast-coding robust motion estimation model in a GPU. Proceedings of SPIE, 2015, , .	0.8	0
70	Comparative analysis of segmentation methods, including adaptive and HOS based algorithms. , 2016, , .		0
71	Editorial (Hot Topic: Bioinspired and Biomedical Signal Processing Systems). Recent Patents on Signal Processing, 2012, 2, 85-87.	0.1	0