

Lothar Thiele

List of Publications by Year in descending order

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Version: 2024-02-01

158
papers

10,616
citations

331259

21
h-index

168136

53
g-index

159
all docs

159
docs citations

159
times ranked

7866
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of Multiobjective Evolutionary Algorithms: Empirical Results. <i>Evolutionary Computation</i> , 2000, 8, 173-195.	2.3	4,646
2	Combining Convergence and Diversity in Evolutionary Multiobjective Optimization. <i>Evolutionary Computation</i> , 2002, 10, 263-282.	2.3	1,298
3	A Comparison of Selection Schemes Used in Evolutionary Algorithms. <i>Evolutionary Computation</i> , 1996, 4, 361-394.	2.3	389
4	A Preference-Based Evolutionary Algorithm for Multi-Objective Optimization. <i>Evolutionary Computation</i> , 2009, 17, 411-436.	2.3	385
5	An efficient, adaptive parameter variation scheme for metaheuristics based on the epsilon-constraint method. <i>European Journal of Operational Research</i> , 2006, 169, 932-942.	3.5	303
6	Sparse graphical Gaussian modeling of the isoprenoid gene network in <i>Arabidopsis thaliana</i> . <i>Genome Biology</i> , 2004, 5, R92.	13.9	290
7	Design of a Solar-Harvesting Circuit for Batteryless Embedded Systems. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2009, 56, 2519-2528.	3.5	226
8	Deriving high-resolution urban air pollution maps using mobile sensor nodes. <i>Pervasive and Mobile Computing</i> , 2015, 16, 268-285.	2.1	204
9	A Survey on Sensor Calibration in Air Pollution Monitoring Deployments. <i>IEEE Internet of Things Journal</i> , 2018, 5, 4857-4870.	5.5	195
10	System-Level Synthesis Using Evolutionary Algorithms. <i>Design Automation for Embedded Systems</i> , 1998, 3, 23-58.	0.7	157
11	System architecture evaluation using modular performance analysis: a case study. <i>International Journal on Software Tools for Technology Transfer</i> , 2006, 8, 649-667.	1.7	154
12	Design for Timing Predictability. <i>Real-Time Systems</i> , 2004, 28, 157-177.	1.1	113
13	Worst case delay analysis for memory interference in multicore systems. , 2010, , .		100
14	Dynamic Power-Aware Mapping of Applications onto Heterogeneous MPSoC Platforms. <i>IEEE Transactions on Industrial Informatics</i> , 2010, 6, 692-707.	7.2	88
15	Thermal-Aware Global Real-Time Scheduling on Multicore Systems. , 2009, , .		71
16	Pushing the spatio-temporal resolution limit of urban air pollution maps. , 2014, , .		63
17	Reducing multi-hop calibration errors in large-scale mobile sensor networks. , 2015, , .		62
18	Dynamic power management for long-term energy neutral operation of solar energy harvesting systems. , 2014, , .		61

#	ARTICLE	IF	CITATIONS
19	Analysis, Comparison, and Optimization of Routing Protocols for Energy Harvesting Wireless Sensor Networks. , 2010, , .		60
20	Proactive Speed Scheduling for Real-Time Tasks under Thermal Constraints. , 2009, , .		59
21	Scheduling of mixed-criticality applications on resource-sharing multicore systems. , 2013, , .		58
22	W-Air. , 2018, 2, 1-25.		54
23	X-SENSE: Sensing in extreme environments. , 2011, , .		40
24	Exploring Energy Saving for Mixed-Criticality Systems on Multi-Cores. , 2016, , .		40
25	Mixed-criticality scheduling on cluster-based manycores with shared communication and storage resources. Real-Time Systems, 2016, 52, 399-449.	1.1	39
26	Applying real-time interface and calculus for dynamic power management in hard real-time systems. Real-Time Systems, 2011, 47, 163-193.	1.1	38
27	Service adaptations for mixed-criticality systems. , 2014, , .		37
28	Thermoelectric Energy Harvesting From Gradients in the Earth Surface. IEEE Transactions on Industrial Electronics, 2020, 67, 9460-9470.	5.2	37
29	Influence of different abstractions on the performance analysis of distributed hard real-time systems. Design Automation for Embedded Systems, 2009, 13, 27-49.	0.7	35
30	Analytic real-time analysis and timed automata: a hybrid methodology for the performance analysis of embedded real-time systems. Design Automation for Embedded Systems, 2010, 14, 193-227.	0.7	34
31	SCAN. , 2017, 1, 1-21.		34
32	Feedback control goes wireless. , 2019, , .		34
33	Running time analysis of evolutionary algorithms on a simplified multiobjective knapsack problem. Natural Computing, 2004, 3, 37-51.	1.8	33
34	Wireless Control for Smart Manufacturing: Recent Approaches and Open Challenges. Proceedings of the IEEE, 2021, 109, 441-467.	16.4	33
35	Adaptive Dynamic Power Management for Hard Real-Time Systems. , 2009, , .		32
36	Reliable mode changes in real-time systems with fixed priority or EDF scheduling. , 2009, , .		31

#	ARTICLE	IF	CITATIONS
37	Dynamic Energy Burst Scaling for Transiently Powered Systems. , 2016, , .		31
38	Worst-Case Temperature Guarantees for Real-Time Applications on Multi-core Systems. , 2012, , .		29
39	Measurement and validation of energy harvesting IoT devices. , 2017, , .		29
40	A decade of detailed observations (2008â€“2018) in steep bedrock permafrost at the Matterhorn HÃ¶rnliigrat (Zermatt, CH). Earth System Science Data, 2019, 11, 1203-1237.	3.7	28
41	Exploiting the parallelism of heterogeneous systems using dataflow graphs on top of OpenCL. , 2013, , .		25
42	Efficient execution of Kahn process networks on multi-processor systems using protothreads and windowed FIFOs. , 2009, , .		24
43	Multi-objective mapping optimization via problem decomposition for many-core systems. , 2012, , .		23
44	Bolt. , 2015, , .		23
45	Coping with unreliable channels: Efficient link estimation for low-power wireless sensor networks. , 2008, , .		22
46	Thermally optimal stop-go scheduling of task graphs with real-time constraints. , 2011, , .		22
47	ICT. , 2019, 3, 1-19.		22
48	Interface-Based Rate Analysis of Embedded Systems. , 2006, , .		21
49	Multiprocessor SoC software design flows. IEEE Signal Processing Magazine, 2009, 26, 64-71.	4.6	21
50	Composing Functional and State-Based Performance Models for Analyzing Heterogeneous Real-Time Systems. , 2007, , .		19
51	On Modeling Low-Power Wireless Protocols Based on Synchronous Packet Transmissions. , 2013, , .		19
52	Time-Critical Systems Design: A Survey. IEEE Design and Test, 2018, 35, 8-26.	1.1	19
53	Adaptive Loss-Aware Quantization for Multi-Bit Networks. , 2020, , .		19
54	Periodic power management schemes for real-time event streams. , 2009, , .		18

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55	Feasibility Analysis of On-Line DVS Algorithms for Scheduling Arbitrary Event Streams. , 2009, , .		18
56	Interference Constraint Graph — A new specification for mixed-criticality systems. , 2013, , .		18
57	Multi-objective Exploration of Compiler Optimizations for Real-Time Systems. , 2010, , .		17
58	FFOB: efficient online mode-switch procrastination in mixed-criticality systems. Real-Time Systems, 2019, 55, 471-513.	1.1	17
59	Dataset. , 2019, , .		17
60	S-XTC: A Signal-Strength Based Topology Control Algorithm for Sensor Networks. , 2007, , .		16
61	Composing heterogeneous components for system-wide performance analysis. , 2011, , .		16
62	Route selection for mobile sensor nodes on public transport networks. Journal of Ambient Intelligence and Humanized Computing, 2014, 5, 307-321.	3.3	16
63	Optimal Power Management with Guaranteed Minimum Energy Utilization for Solar Energy Harvesting Systems. , 2015, , .		16
64	Towards the design of fault-tolerant mixed-criticality systems on multicores. , 2016, , .		16
65	Approximating Pareto optimal compiler optimization sequencesâ€”a tradeâ€œff between WCET, ACET and code size. Software - Practice and Experience, 2011, 41, 1437-1458.	2.5	15
66	Linear systolic arrays for matrix computations. Journal of Parallel and Distributed Computing, 1989, 7, 28-39.	2.7	14
67	Component-based system design: analytic real-time interfaces for state-based component implementations. International Journal on Software Tools for Technology Transfer, 2013, 15, 155-170.	1.7	14
68	Mixed-criticality runtime mechanisms and evaluation on multicores. , 2015, , .		14
69	End-to-End Real-Time Guarantees in Wireless Cyber-Physical Systems. , 2016, , .		14
70	Optimizing the NoC Slack Through Voltage and Frequency Scaling in Hard Real-Time Embedded Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 1632-1643.	1.9	13
71	Maestro: Autonomous QoS Management for Mobile Applications Under Thermal Constraints. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2019, 38, 1557-1570.	1.9	13
72	Run and Be Safe: Mixed-Criticality Scheduling with Temporary Processor Speedup. , 2015, , .		13

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73	Automated Wireless Sensor Network Testing. , 2007, , .		12
74	Thermal-aware global real-time scheduling and analysis on multicore systems. Journal of Systems Architecture, 2011, 57, 547-560.	2.5	12
75	Model-Driven Accuracy Bounds for Noisy Sensor Readings. , 2013, , .		12
76	An Isolation Scheduling Model for Multicores. , 2015, , .		12
77	A testbed for fine-grained tracing of time sensitive behavior in wireless sensor networks. , 2015, , .		12
78	RocketLogger. , 2016, , .		12
79	Quantifying the Effect of Rare Timing Events with Settling-Time and Overshoot. , 2012, , .		11
80	AdaPNet. , 2014, , .		11
81	Passive, Privacy-Preserving Real-Time Counting of Unmodified Smartphones via ZigBee Interference. , 2015, , .		11
82	Extending the Lifetime of Nano-Blimps via Dynamic Motor Control. Journal of Signal Processing Systems, 2019, 91, 339-361.	1.4	11
83	A systolic array for cyclic-by-rows Jacobi algorithms. Journal of Parallel and Distributed Computing, 1987, 4, 334-340.	2.7	10
84	Generation and calibration of compositional performance analysis models for multi-processor systems. , 2009, , .		10
85	An approximation scheme for energy-efficient scheduling of real-time tasks in heterogeneous multiprocessor systems. , 2009, , .		10
86	Dynamic many-process applications on many-tile embedded systems and HPC clusters: The EURETILE programming environment and execution platforms. Journal of Systems Architecture, 2016, 69, 29-53.	2.5	10
87	Optimal Power Management for Energy Harvesting Systems with A Backup Power Source. , 2021, , .		10
88	Windowed FIFOs for FPGA-based Multiprocessor Systems. , 2007, , .		9
89	Systematic identification of external influences in multi-year microseismic recordings using convolutional neural networks. Earth Surface Dynamics, 2019, 7, 171-190.	1.0	9
90	Efficient Worst-Case Temperature Evaluation for Thermal-Aware Assignment of Real-Time Applications on MPSoCs. Journal of Electronic Testing: Theory and Applications (JETTA), 2013, 29, 521-535.	0.9	8

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91	Dynamic Min-Max Problems. Discrete Event Dynamic Systems: Theory and Applications, 1999, 9, 111-134.	0.6	7
92	Platform synthesis and partitioning of real-time tasks for energy efficiency. Journal of Systems Architecture, 2011, 57, 573-583.	2.5	7
93	Timing Analysis on a Processor with Temperature-Controlled Speed Scaling. , 2012, , .		7
94	Frequency Scaling As a Security Threat on Multicore Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 2497-2508.	1.9	7
95	Environment and Application Testbed for Low-Power Energy Harvesting System Design. IEEE Transactions on Industrial Electronics, 2021, 68, 11146-11156.	5.2	7
96	EvAnT: Analysis and Checking of Event Traces for Wireless Sensor Networks. , 2008, , .		6
97	Guest Editorial Special Section on Power-Aware Computing. IEEE Transactions on Industrial Informatics, 2010, 6, 253-254.	7.2	6
98	Adaptive power management for real-time event streams. , 2010, , .		6
99	Visualizing large sensor network data sets in space and time with vizzly. , 2012, , .		6
100	An Algorithm for Online Reconfiguration of Resource Reservations for Hard Real-Time Systems. , 2012, , .		6
101	Route selection for mobile sensors with checkpointing constraints. , 2012, , .		6
102	Mapping mixed-criticality applications on multi-core architectures. , 2014, , .		6
103	Implementation of Partitioned Mixed-Criticality Scheduling on a Multi-Core Platform. Transactions on Embedded Computing Systems, 2017, 16, 1-21.	2.1	6
104	Accurate Onboard Predictions for Indoor Energy Harvesting using Random Forests. , 2022, , .		6
105	Workload correlations in multi-processor hard real-time systems. Journal of Computer and System Sciences, 2007, 73, 207-224.	0.9	5
106	Mobile Ultrasound Imaging on Heterogeneous Multi-Core Platforms. , 2016, , .		5
107	Robustness of predictive energy harvesting systems: Analysis and adaptive prediction scaling. IET Computers and Digital Techniques, 2022, 16, 106-124.	0.9	5
108	Generating an action notation environment from Montages descriptions. International Journal on Software Tools for Technology Transfer, 2001, 3, 431-455.	1.7	4

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109	NoSE: Efficient Maintenance and Initialization of Wireless Sensor Networks. , 2009, , .		4
110	Secondis: An Adaptive Dissemination Protocol for Synchronizing Wireless Sensor Networks. , 2010, , .		4
111	End-to-End Delay Minimization in Thermally Constrained Distributed Systems. , 2011, , .		4
112	Real-Time Analysis of Servers for General Job Arrivals. , 2011, , .		4
113	A Satisfiability Approach to Speed Assignment for Distributed Real-Time Systems. , 2013, , .		4
114	On the scheduling of fault-tolerant mixed-criticality systems. , 2014, , .		4
115	Enhancing Multi-hop Sensor Calibration with Uncertainty Estimates. , 2019, , .		4
116	Performance maximization of energy-variable self-powered (m,Åk)-firm real-time systems. Real-Time Systems, 2020, 56, 64-111.	1.1	4
117	Joint Energy Management for Distributed Energy Harvesting Systems. , 2021, , .		4
118	Energy reduction techniques for systems with non-DVS components. , 2009, , .		3
119	Energy-Efficient Scheduling Algorithms for Periodic Power Management for Real-Time Event Streams. , 2011, , .		3
120	Mutation operator characterization: Exhaustiveness, locality, and bias. , 2011, , .		3
121	Fast worst-case peak temperature evaluation for real-time applications on multi-core systems. , 2012, , .		3
122	The Problem Bit. , 2013, , .		3
123	A Calibration Based Thermal Modeling Technique for Complex Multicore Systems. , 2015, , .		3
124	Isolation scheduling on multicores: model and scheduling approaches. Real-Time Systems, 2017, 53, 614-667.	1.1	3
125	Internet of Thingsâ€”The Quest for Trust. IEEE Design and Test, 2017, 34, 102-108.	1.1	3
126	On The Design and Application of Thermal Isolation Servers. Transactions on Embedded Computing Systems, 2017, 16, 1-19.	2.1	3

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127	The security risks of power measurements in multicores. , 2018, , .		3
128	Mapping mixed-criticality applications on multi-core architectures. , 2014, , .		3
129	SensorFormer: Efficient Many-to-Many Sensor Calibration With Learnable Input Subsampling. IEEE Internet of Things Journal, 2022, 9, 20577-20589.	5.5	3
130	Designing a High-Reliability Low-Power Status Monitoring Protocol. , 2007, , .		2
131	The bus goes wireless: Routing-free data collection with QoS guarantees in sensor networks. , 2012, , .		2
132	Deterministic memory sharing in Kahn process networks: Ultrasound imaging as a case study. , 2014, , .		2
133	A Case for Atmospheric Transmittance: Solar Energy Prediction in Wireless Sensor Nodes. , 2018, , .		2
134	DOL-BIP-Critical: a tool chain for rigorous design and implementation of mixed-criticality multi-core systems. Design Automation for Embedded Systems, 2018, 22, 141-181.	0.7	2
135	Resource-Aware Stochastic Self-Triggered Model Predictive Control. , 2022, 6, 1262-1267.		2
136	Robust Resource-Aware Self-Triggered Model Predictive Control. , 2022, 6, 1724-1729.		2
137	Dataflow Driven Partitioning of Machine Learning Applications for Optimal Energy Use in Batteryless Systems. Transactions on Embedded Computing Systems, 2022, 21, 1-29.	2.1	2
138	Algorithm-architecture co-design by example: a coprocessor for on-line arithmetic. Microprocessing and Microprogramming, 1995, 41, 339-357.	0.3	1
139	Optimal temporal partitioning based on slowdown and retiming. , 2006, , .		1
140	Behavioural composition constructively built server algorithms. ACM SIGBED Review, 2013, 10, 43-48.	1.8	1
141	iSpray. , 2022, 6, 1-29.		1
142	Special Issue on ASAP 2004 Conference. Journal of Signal Processing Systems, 2007, 49, 1-2.	1.0	0
143	Energy-efficient real-time task scheduling with temperature-dependent leakage. , 2010, , .		0
144	MAMOT: Memory-Aware Mapping Optimization Tool for MPSoC. , 2012, , .		0

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145	COOLIP: Simple yet effective job allocation for distributed thermally-throttled processors. , 2014, , .		0
146	Computing a language-based guarantee for timing properties of cyber-physical systems. , 2014, , .		0
147	Computing a language-based guarantee for timing properties of cyber-physical systems. , 2014, , .		0
148	Poster Abstract: A Heterogeneous System Architecture for Event-Triggered Wireless Sensing. , 2016, , .		0
149	Mitigating Erroneous Wake-ups. , 2017, , .		0
150	The 2017 Embedded Systems Week (ESWEEK). IEEE Design and Test, 2018, 35, 95-96.	1.1	0
151	Guest Editorsâ€™ Introduction: Special Issue on Time-Critical Systems Design. IEEE Design and Test, 2018, 35, 5-7.	1.1	0
152	Two-level bulk microfabrication of a mechanical broadband vibration amplitude-amplifier with ten coupled resonators. Journal of Micromechanics and Microengineering, 2018, 28, 045009.	1.5	0
153	Real-Time and IoT â€œ Why and How?. , 2020, , .		0
154	Schedulability of probabilistic mixed-criticality systems. Real-Time Systems, 2021, 57, 397-442.	1.1	0
155	COOLIP: Simple yet effective job allocation for distributed thermally-throttled processors. , 2014, , .		0
156	Non-Intrusive Distributed Tracing of Wireless IoT Devices with the FlockLabÂ² Testbed. ACM Transactions on Internet of Things, 2022, 3, 1-31.	3.4	0
157	Increased reproducibility and comparability of data leak evaluations using ExOT. , 2020, , .		0
158	Automatic Energy-Hotspot Detection and Elimination in Real-Time Deeply Embedded Systems. , 2021, , .		0