Alan Burns

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/297476/publications.pdf

Version: 2024-02-01

166	7,941	185998	82410
papers	citations	28 h-index	72 g-index

167	167	167	2224
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Optimally ordering IDK classifiers subject to deadlines. Real-Time Systems, 2023, 59, 1-34.	1.1	4
2	Compensating Adaptive Mixed Criticality Scheduling. , 2022, , .		6
3	MSRP-FT: Reliable Resource Sharing on Multiprocessor Mixed-Criticality Systems. , 2022, , .		2
4	Analysis-Runtime Co-design for Adaptive Mixed Criticality Scheduling. , 2022, , .		1
5	Priority Assignment on Partitioned Multiprocessor Systems With Shared Resources. IEEE Transactions on Computers, 2021, 70, 1006-1018.	2.4	6
6	Optimal Synthesis of IDK-Cascades. , 2021, , .		6
7	Deriving Specifications of Control Programs for Cyber Physical Systems. Computer Journal, 2020, 63, 774-790.	1.5	2
8	A complete run-time overhead-aware schedulability analysis for MrsP under nested resources. Journal of Systems and Software, 2020, 159, 110449.	3.3	4
9	Period adaptation of real-time control tasks with fixed-priority scheduling in cyber-physical systems. Journal of Systems Architecture, 2020, 103, 101691.	2.5	18
10	Expressing survivability considerations in mixed-criticality scheduling theory. Journal of Systems Architecture, 2020, 109, 101755.	2.5	3
11	A Novel Flow Control Mechanism to Avoid Multi-Point Progressive Blocking in Hard Real-Time Priority-Preemptive NoCs. , 2020, , .		6
12	The AirTight Protocol for Mixed Criticality Wireless CPS. ACM Transactions on Cyber-Physical Systems, 2020, 4, 1-28.	1.9	5
13	Schedulability Analysis for Adaptive Mixed Criticality Systems with Arbitrary Deadlines and Semi-Clairvoyance. , 2020, , .		4
14	Development Automation of Real-Time Java. Transactions on Embedded Computing Systems, 2020, 19, 1-26.	2.1	1
15	Real-time analysis of priority-preemptive NoCs with arbitrary buffer sizes and router delays. Real-Time Systems, 2019, 55, 63-105.	1.1	15
16	A Dual-Mode Strategy for Performance-Maximisation and Resource-Efficient CPS Design. Transactions on Embedded Computing Systems, 2019, 18, 1-20.	2.1	19
17	Incorporating Robustness and Resilience into Mixed-Criticality Scheduling Theory. , 2019, , .		3
18	From Java to real-time Java: a model-driven methodology with automated toolchain (invited paper). , 2019, , .		2

#	Article	IF	Citations
19	Semi-Clairvoyance in Mixed-Criticality Scheduling. , 2019, , .		9
20	Work-in-Progress: Real-Time RPC for Hybrid Dual-OS System. , 2019, , .		0
21	A semi-partitioned model for mixed criticality systems. Journal of Systems and Software, 2019, 150, 51-63.	3.3	13
22	Buffer-aware bounds to multi-point progressive blocking in priority-preemptive NoCs. , 2018, , .		16
23	A Survey of Research into Mixed Criticality Systems. ACM Computing Surveys, 2018, 50, 1-37.	16.1	147
24	Robust Mixed-Criticality Systems. IEEE Transactions on Computers, 2018, 67, 1478-1491.	2.4	39
25	TZDKS: A New TrustZone-Based Dual-Criticality System with Balanced Performance. , 2018, , .		13
26	Mixed Criticality Systems with Varying Context Switch Costs. , 2018, , .		13
27	An Enhanced Bailout Protocol for Mixed Criticality Embedded Software. IEEE Transactions on Software Engineering, 2017, 43, 298-320.	4.3	21
28	New schedulability analysis for MrsP. , 2017, , .		16
29	Supporting Nested Resources in MrsP. Lecture Notes in Computer Science, 2017, , 73-86.	1.0	11
30	Improving the Schedulability of Mixed Criticality Cyclic Executives via Limited Task Splitting. , 2016, , .		4
31	A review of priority assignment in real-time systems. Journal of Systems Architecture, 2016, 65, 64-82.	2.5	65
32	Deriving period restrictions from a given utilization bound under RMS. , 2015, , .		0
33	A Bailout Protocol for Mixed Criticality Systems. , 2015, , .		37
34	Semi-partitioned model for dual-core mixed criticality system. , 2015, , .		10
35	Reducing the Implementation Overheads of IPCP and DFP. , 2015, , .		9
36	A Deadline-Floor Inheritance Protocol for EDF Scheduled Embedded Real-Time Systems with Resource Sharing. IEEE Transactions on Computers, 2015, 64, 1241-1253.	2.4	23

#	Article	IF	Citations
37	Average and Worst-Case Latency Improvements in Mixed-Criticality Wormhole Networks-on-Chip. , 2015, , .		34
38	Exact comparison of fixed priority and EDF scheduling based on speedup factors for both pre-emptive and non-pre-emptive paradigms. Real-Time Systems, 2015, 51, 566-601.	1.1	12
39	Cyclic Executives, Multi-core Platforms and Mixed Criticality Applications. , 2015, , .		13
40	Adaptive Mixed Criticality Scheduling with Deferred Preemption. , 2014, , .		29
41	A Wormhole NoC Protocol for Mixed Criticality Systems. , 2014, , .		46
42	Supporting lockâ€based multiprocessor resource sharing protocols in realâ€time programming languages. Concurrency Computation Practice and Experience, 2013, 25, 2227-2251.	1.4	14
43	Modelling temporal behaviour in complex systems with Timebands. Formal Methods in System Design, 2013, 43, 520-551.	0.9	2
44	Mixed Criticality on Controller Area Network. , 2013, , .		28
45	A Schedulability Compatible Multiprocessor Resource Sharing Protocol -- MrsP. , 2013, , .		57
46	Guest editorial: multiprocessor scheduling. Real-Time Systems, 2013, 49, 137-139.	1.1	0
47	Comparing Degrees of Non-Determinism in Expression Evaluation. Computer Journal, 2013, 56, 741-755.	1.5	15
48	Locking policies for multiprocessor ada. ACM SIGAda Ada Letters, 2013, 33, 59-65.	0.1	8
49	Programming simple reactive systems in ada: premature program termination. ACM SIGAda Ada Letters, 2013, 33, 75-86.	0.1	0
50	Fixed-priority scheduling of dual-criticality systems. , 2013, , .		12
51	Parallel Ada. ACM SIGAda Ada Letters, 2013, 33, 9-13.	0.1	2
52	Partitioned EDF scheduling for multiprocessors using a C=D task splitting scheme. Real-Time Systems, 2012, 48, 3-33.	1.1	58
53	Modelling Temporal Behaviour in Complex Systems with Timebands. , 2012, , 277-307.		1
54	FPZL Schedulability Analysis. , 2011, , .		27

#	Article	IF	Citations
55	A survey of hard real-time scheduling for multiprocessor systems. ACM Computing Surveys, 2011, 43, 1-44.	16.1	657
56	Improved priority assignment for global fixed priority pre-emptive scheduling in multiprocessor real-time systems. Real-Time Systems, 2011, 47, 1-40.	1.1	138
57	Response-Time Analysis for Mixed Criticality Systems. , 2011, , .		235
58	Timed Circus: Timed CSP with the Miracle. , 2011, , .		7
59	Notice of Retraction: Sensitivity analysis of relative deadline for EDF scheduled real-time systems. , 2010, , .		0
60	A timeband framework for modelling real-time systems. Real-Time Systems, 2010, 45, 106-142.	1.1	32
61	Schedulability analysis and task mapping for real-time on-chip communication. Real-Time Systems, 2010, 46, 360-385.	1.1	36
62	Task parameter computations for constraint deadline real-time systems with EDF scheduling. , 2010, , .		3
63	Reasoning About the Reliability of Multi-version, Diverse Real-Time Systems. , 2010, , .		6
64	Sensitivity Analysis of the Minimum Task Period for Arbitrary Deadline Real-Time Systems. , 2010, , .		2
65	A Timed Model of Circus with the Reactive Design Miracle. , 2010, , .		6
66	Modelling and Implementing Complex Systems with Timebands. , 2010, , .		1
67	Priority Assignment for Global Fixed Priority Pre-Emptive Scheduling in Multiprocessor Real-Time Systems. , 2009, , .		129
68	Robust priority assignment for messages onÂControllerÂArea Network (CAN). Real-Time Systems, 2009, 41, 152-180.	1.1	30
69	Guest editorial: Special issue on ECRTS 2008. Real-Time Systems, 2009, 43, 1-2.	1.1	0
70	Exact quantification of the sub-optimality ofÂuniprocessor fixed priority pre-emptive scheduling. Real-Time Systems, 2009, 43, 211-258.	1.1	27
71	Exact scheduling analysis of non-accumulatively monotonic multiframe tasks. Real-Time Systems, 2009, 43, 119-146.	1.1	12
72	Real-Time Communication Analysis with a Priority Share Policy in On-Chip Networks. , 2009, , .		32

#	Article	IF	Citations
73	Improvement to Quick Processor-Demand Analysis for EDF-Scheduled Real-Time Systems. , 2009, , .		16
74	Schedulability Analysis for Real-Time Systems with EDF Scheduling. IEEE Transactions on Computers, 2009, 58, 1250-1258.	2.4	146
75	Flexible hard real-time scheduling for deliberative AIÂsystems. Real-Time Systems, 2008, 40, 241-263.	1.1	10
76	Real-Time Communication Analysis for On-Chip Networks with Wormhole Switching. , 2008, , .		126
77	Exact scheduling analysis of accumulatively monotonic multiframe tasks subjected to release jitter and arbitrary deadlines. , 2008, , .		2
78	Response Time Upper Bounds for Fixed Priority Real-Time Systems. , 2008, , .		31
79	Priority Assignment for Real-Time Wormhole Communication in On-Chip Networks. , 2008, , .		24
80	Sustainability in Real-time Scheduling. Journal of Computing Science and Engineering, 2008, 2, 74-97.	0.3	64
81	Analysis of Hierarchical EDF Pre-emptive Scheduling. , 2007, , .		20
82	Robust Priority Assignment for Fixed Priority Real-Time Systems. , 2007, , .		48
83	Supporting Deliberative Real-Time AI Systems: A Fixed Priority Scheduling Approach. Real-Time Systems (ECRTS), Proceedings of the Euromicro Workshop on, 2007, , .	0.0	0
84	Optimal -monotonic priority assignment. Information Processing Letters, 2007, 103, 247-250.	0.4	28
85	An engineering process for the verification of real-time systems. Formal Aspects of Computing, 2007, 19, 111-136.	1.4	7
86	Controller Area Network (CAN) schedulability analysis: Refuted, revisited and revised. Real-Time Systems, 2007, 35, 239-272.	1.1	613
87	Programming Execution-Time Servers in Ada 2005. , 2006, , .		16
88	Sustainable Scheduling Analysis. , 2006, , .		115
89	Resource Sharing in Hierarchical Fixed Priority Pre-Emptive Systems. , 2006, , .		102
90	Timing Analysis of Real-Time Communication Under Electromagnetic Interference. Real-Time Systems, 2005, 30, 55-81.	1.1	33

#	Article	IF	Citations
91	Hard Real-Time Communication with the Timed Token Protocol: Current State and Challenging Problems. Real-Time Systems, 2004, 27, 271-295.	1.1	17
92	Real Time Scheduling Theory: A Historical Perspective. Real-Time Systems, 2004, 28, 101-155.	1.1	434
93	The Valid Use of Utility in Adaptive Real-Time Systems. Real-Time Systems, 2003, 25, 277-296.	1.1	16
94	Title is missing!. Real-Time Systems, 2003, 24, 135-151.	1.1	26
95	An Integrated Approach to Scheduling in Safety-Critical Embedded Control Systems. Real-Time Systems, 2003, 25, 5-37.	1.1	33
96	Cycle-time properties of the timed token medium access control protocol. IEEE Transactions on Computers, 2002, 51, 1362-1367.	2.4	7
97	HARTEX?a safe real-time kernel for distributed computer control systems. Software - Practice and Experience, 2002, 32, 209-232.	2.5	11
98	Multiple Servers and Capacity Sharing for Implementing Flexible Scheduling. Real-Time Systems, 2002, 22, 49-75.	1.1	47
99	Title is missing!. Real-Time Systems, 2002, 22, 229-249.	1.1	10
100	Title is missing!. Real-Time Systems, 2002, 22, 251-280.	1.1	9
101	Weakly hard real-time systems. IEEE Transactions on Computers, 2001, 50, 308-321.	2.4	286
102	Analysis of Checkpointing for Real-Time Systems. Real-Time Systems, 2001, 20, 83-102.	1.1	80
103	On developing and verifying design abstractions for reliable concurrent programming in Ada. ACM SIGAda Ada Letters, 2001, XXI, 48-55.	0.1	0
104	Implementing a high-integrity executive using Ravenscar. ACM SIGAda Ada Letters, 2001, XXI, 40-45.	0.1	1
105	Non-preemptive dispatching and locking policies. ACM SIGAda Ada Letters, 2001, XXI, 46-47.	0.1	0
106	A value-based scheduling approach for real-time autonomous vehicle control. Robotica, 2000, 18, 273-279.	1.3	14
107	Guest Editorial: A Review of Worst-Case Execution-Time Analysis. Real-Time Systems, 2000, 18, 115-128.	1.1	179
108	Replica determinism and flexible scheduling in hard real-time dependable systems. IEEE Transactions on Computers, 2000, 49, 100-111.	2.4	55

#	Article	IF	Citations
109	An experimental testbed for embedded real time Ada 95. ACM SIGAda Ada Letters, 1999, XIX, 84-89.	0.1	2
110	How to verify concurrent Ada programs. ACM SIGAda Ada Letters, 1999, XIX, 78-83.	0.1	3
111	Restricted tasking models. ACM SIGAda Ada Letters, 1997, XVII, 27-32.	0.1	1
112	Task termination and Ada 95. ACM SIGAda Ada Letters, 1997, XVII, 100-105.	0.1	0
113	Feature interactions with dynamic priorities. ACM SIGAda Ada Letters, 1997, XVII, 24-26.	0.1	0
114	Implementing atomic actions in Ada 95. IEEE Transactions on Software Engineering, 1997, 23, 107-123.	4.3	29
115	Combining static worst-case timing analysis and program proof. Real-Time Systems, 1996, 11, 145-171.	1.1	45
116	Programming Replicated Systems in Ada 95. Computer Journal, 1996, 39, 361-373.	1.5	8
117	Broadening real-time systems research. ACM Computing Surveys, 1996, 28, 178.	16.1	2
118	Fixed priority pre-emptive scheduling: An historical perspective. Real-Time Systems, 1995, 8, 173-198.	1.1	257
119	Engineering a hard real-time system: From theory to practice. Software - Practice and Experience, 1995, 25, 705-726.	2.5	22
120	An optimal synchronous bandwidth allocation scheme for guaranteeing synchronous message deadlines with the timed-token MAC protocol. IEEE/ACM Transactions on Networking, 1995, 3, 729-741.	2.6	43
121	Sporadic tasks in hard real-time systems. ACM SIGAda Ada Letters, 1995, XV, 46-51.	0.1	1
122	An extendible approach for analyzing fixed priority hard real-time tasks. Real-Time Systems, 1994, 6, 133-151.	1.1	399
123	STRESS: A simulator for hard real-time systems. Software - Practice and Experience, 1994, 24, 543-564.	2.5	69
124	Calculating controller area network (CAN) message response times. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1994, 27, 35-40.	0.4	191
125	Static worst-case timing analysis of Ada. ACM SIGAda Ada Letters, 1994, XIV, 88-91.	0.1	8
126	Implementing analysable hard real-time sporadic tasks in Ada 9X. ACM SIGAda Ada Letters, 1994, XIV, 38-49.	0.1	3

#	Article	IF	Citations
127	The End Of The Line For Static Cyclic Scheduling?. , 1993, , .		69
128	Applying new scheduling theory to static priority pre-emptive scheduling. Software Engineering Journal, 1993, 8, 284.	0.7	827
129	Dual Priority Assignment: A Practical Method For Increasing Processor Utilisation. , 1993, , .		20
130	Absolute and relative temporal constraints in hard real-time databases. , 1992, , .		21
131	Allocating hard real-time tasks: An NP-Hard problem made easy. Real-Time Systems, 1992, 4, 145-165.	1.1	277
132	A Framework for Building Dependable Systems. Computer Journal, 1991, 34, 173-181.	1.5	48
133	Asynchronism in Ada 9X. ACM SIGAda Ada Letters, 1991, XI, 66-68.	0.1	0
134	Effective use of abort in programming mode changes. ACM SIGAda Ada Letters, 1990, X, 61-67.	0.1	5
135	Hybrid algorithms for dynamic schedulability testing. , 0, , .		2
136	Real-time distributed computing. , 0, , .		6
137	Flexible scheduling for adaptable real-time systems. , 0, , .		20
138	Towards a fixed priority scheduler for an aircraft application. , 0, , .		7
139	Putting fixed priority scheduling theory into engineering practice for safety critical applications. , 0, , .		11
140	Feasibility analysis of fault-tolerant real-time task sets. , 0, , .		94
141	An efficient and practical local synchronous bandwidth allocation scheme for the timed-token MAC protocol. , 0, , .		21
142	Schedulability analysis of fixed priority real-time systems with offsets. , 0, , .		19
143	Guaranteeing timing constraints under shortest remaining processing time scheduling. , 0, , .		0
144	Worst case response time analysis of hard real-time sporadic traffic in FIP networks. , 0, , .		18

#	Article	IF	Citations
145	Analysis of checkpointing for schedulability of real-time systems. , 0, , .		17
146	Timing properties of the timed token MAC protocol. , 0, , .		6
147	Schedulability analysis for mode changes in flexible real-time systems. , 0, , .		50
148	Asynchronous data sharing in multiprocessor real-time systems using process consensus. , 0, , .		14
149	Loop-free asynchronous data sharing in multiprocessor real-time systems based on timing properties. , 0, , .		17
150	Probabilistic scheduling guarantees for fault-tolerant real-time systems. , 0, , .		54
151	An approach to task attribute assignment for uniprocessor systems. , 0, , .		9
152	A framework for scheduling in safety-critical embedded control systems. , 0, , .		2
153	Dynamic value-density for scheduling real-time systems. , 0, , .		27
154	Time-constrained sorting-a comparison of different algorithms. , 0, , .		1
155	Predicting computation time for advanced processor architectures. , 0, , .		28
156	Portable worst-case execution time analysis using Java Byte Code. , 0, , .		41
157	Timely use of the CAN protocol in critical hard real-time systems with faults. , 0, , .		23
158	Three obstacles to flexible scheduling. , 0, , .		3
159	An effective schedulability analysis for fault-tolerant hard real-time systems. , 0, , .		13
160	Asynchronous event handling and real-time threads in the real-time specification for Java. , 0, , .		7
161	Weakly hard real-time constraints on controller area network. , 0, , .		12
162	A consensus protocol for CAN-based systems. , 0, , .		4

#	Article	IF	Citations
163	Rewriting History to Exploit Gain Time. , 0, , .		12
164	Hierarchical Fixed Priority Pre-Emptive Scheduling. , 0, , .		131
165	FSF: A Real-Time Scheduling Architecture Framework. , 0, , .		23
166	Investigation of the pessimism in distributed systems timing analysis. , 0, , .		7