Binoy Ravindran

List of Publications by Year
in descending order

		706676	620720
194 papers	1,926 citations	14 h-index	26 g-index
204 all docs	204 docs citations	204 times ranked	1106 citing authors

#	ARTICLE	IF	CITATIONS
1	Adelie: continuous address space layout re-randomization for Linux drivers. , 2022, , .		3
2	Kite. , 2022, , .		1
3	Formally verified lifting of C-compiled x86-64 binaries. , 2022, , .		3
4	wCQ. , 2022, , .		1
5	Snapshot-free, transparent, and robust memory reclamation for lock-free data structures. , 2021, , .		7
6	Xar-trek. , 2021, , .		3
7	A Syscall-Level Binary-Compatible Unikernel. IEEE Transactions on Computers, 2021, , 1-1.	2.4	2
8	H-Container: Enabling Heterogeneous-ISA Container Migration in Edge Computing. ACM Transactions on Computer Systems, 2021, 39, 1-36.	0.6	2
9	Taming the Contention in Consensus-based Distributed Systems. IEEE Transactions on Dependable and Secure Computing, 2020, , 1-1.	3.7	1
10	Universal wait-free memory reclamation. , 2020, , .		11
11	LibrettOS. , 2020, , .		7
12	Edge computing. , 2020, , .		28
13	Intra-unikernel isolation with Intel memory protection keys. , 2020, , .		25
14	Highly Automated Formal Proofs over Memory Usage of Assembly Code. Lecture Notes in Computer Science, 2020, , 98-117.	1.0	1
15	Scaling Shared Memory Multiprocessing Applications in Non-cache-coherent Domains. , 2020, , .		1
16	Dynamic and Secure Memory Transformation in Userspace. Lecture Notes in Computer Science, 2020, , 237-256.	1.0	3
17	An OpenMP Runtime for Transparent Work Sharing Across Cache-Incoherent Heterogeneous Nodes. , 2020, , .		2
18	A Validation Methodology for OCaml-to-PVS Translation. Lecture Notes in Computer Science, 2020, , 207-221.	1.0	0

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19	Sound C Code Decompilation for a Subset of x86-64 Binaries. Lecture Notes in Computer Science, 2020, , 247-264.	1.0	5
20	Secure and efficient in-process monitor (and library) protection with Intel MPK. , 2020, , .		8
21	DeX: Scaling Applications Beyond Machine Boundaries. , 2020, , .		4
22	HEXO. , 2019, , .		10
23	Quantifying Memory Underutilization in HPC Systems and Using it to Improve Performance via Architecture Support. , 2019, , .		15
24	Cross-ISA execution of SIMD regions for improved performance. , 2019, , .		1
25	A binary-compatible unikernel. , 2019, , .		37
26	Scheduling HPC workloads on heterogeneous-ISA architectures. , 2019, , .		4
27	libMPNode. , 2019, , .		4
28	Scalable Translation Validation of Unverified Legacy OS Code. , 2019, , .		1
29	ezBFT: Decentralizing Byzantine Fault-Tolerant State Machine Replication. , 2019, , .		10
30	Formally verified big step semantics out of x86-64 binaries. , 2019, , .		7
31	Hyaline: Fast and Transparent Lock-Free Memory Reclamation. , 2019, , .		14
32	Lerna. ACM Transactions on Storage, 2019, 15, 1-24.	1.4	1
33	Establishing a refinement relation between binaries and abstract code. , 2019, , .		1
34	Rethinking Communication in Multiple-kernel OSes for New Shared Memory Interconnects. , 2019, , .		0
35	PrVM. ACM SIGBED Review, 2019, 16, 14-20.	1.8	1
36	SlimGuard. , 2019, , .		7

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37	AIRA: A Framework for Flexible Compute Kernel Execution in Heterogeneous Platforms. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 269-282.	4.0	4
38	Lerna. , 2018, , .		1
39	HiperTM: High performance, fault-tolerant transactional memory. Theoretical Computer Science, 2017, 688, 86-102.	0.5	4
40	Managing Resource Limitation of Best-Effort HTM. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 2299-2313.	4.0	3
41	Transparent Fault-Tolerance Using Intra-Machine Full-Software-Stack Replication on Commodity Multicore Hardware. , 2017, , .		6
42	Swift Birth and Quick Death. , 2017, , .		12
43	A Distributed Operating System Network Stack and Device Driver for Multicores. , 2017, , .		0
44	Breaking the Boundaries in Heterogeneous-ISA Datacenters. ACM SIGPLAN Notices, 2017, 52, 645-659.	0.2	3
45	Speeding up Consensus by Chasing Fast Decisions. , 2017, , .		21
46	OS Support for Thread Migration and Distribution in the Fully Heterogeneous Datacenter. , 2017, , .		6
47	Optimistic Transactional Boosting. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 3600-3614.	4.0	5
48	Breaking the Boundaries in Heterogeneous-ISA Datacenters. , 2017, , .		28
49	Breaking the Boundaries in Heterogeneous-ISA Datacenters. Operating Systems Review (ACM), 2017, 51, 645-659.	1.5	0
50	Breaking the Boundaries in Heterogeneous-ISA Datacenters. Computer Architecture News, 2017, 45, 645-659.	2.5	3
51	On designing NUMA-aware concurrency control for scalable transactional memory. , 2016, , .		3
52	A flattened hierarchical scheduler for real-time virtualization. , 2016, , .		5
53	Making Fast Consensus Generally Faster. , 2016, , .		26
54	On ordering transaction commit. , 2016, , .		2

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55	Exploiting Parallelism of Distributed Nested Transactions. , 2016, , .		1
56	Extending TM Primitives using Low Level Semantics. , 2016, , .		2
57	On Open Nesting in Distributed Transactional Memory. IEEE Transactions on Computers, 2016, 65, 1856-1868.	2.4	2
58	Remote Transaction Commit: Centralizing Software Transactional Memory Commits. IEEE Transactions on Computers, 2016, 65, 2228-2240.	2.4	1
59	Automated Data Partitioning for Highly Scalable and Strongly Consistent Transactions. IEEE Transactions on Parallel and Distributed Systems, 2016, 27, 106-118.	4.0	20
60	Opacity vs TMS2: Expectations and Reality. Lecture Notes in Computer Science, 2016, , 269-283.	1.0	2
61	Harnessing Energy Efficiency of Heterogeneous-ISA Platforms. Operating Systems Review (ACM), 2016, 49, 65-69.	1.5	6
62	On Reducing False Conflicts in Distributed Transactional Data Structures. , 2015, , .		2
63	Reducing Aborts in Distributed Transactional Systems through Dependency Detection. , 2015, , .		1
64	Transactional Interference-Less Balanced Tree. Lecture Notes in Computer Science, 2015, , 325-340.	1.0	2
65	Harnessing energy efficiency of heterogeneous-ISA platforms. , 2015, , .		10
66	An Automated Framework for Decomposing Memory Transactions to Exploit Partial Rollback. , 2015, , .		0
67	Popcorn. , 2015, , .		54
68	On Preserving Data Integrity of Transactional Applications on Multicore Architectures. , 2015, , .		1
69	Disjoint-Access Parallelism. , 2015, , .		17
70	On Scheduling Best-Effort HTM Transactions. , 2015, , .		2
71	Managing Resource Limitation of Best-Effort HTM. , 2015, , .		2
72	Thread Migration in a Replicated-Kernel OS. , 2015, , .		8

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73	On Exploiting Locality for Generalized Consensus. , 2015, , .		1
74	Transaction Execution Models in Partially Replicated Transactional Memory: The Case for Data-Flow and Control-Flow. Lecture Notes in Computer Science, 2015, , 341-366.	1.0	5
75	On Scheduling in Distributed Transactional Memory: Techniques and Tradeoffs. , 2015, , 1267-1283.		0
76	KairosVM: Deterministic introspection for real-time virtual machine hierarchical scheduling. , 2014, , .		5
77	Speculative client execution in deferred update replication. , 2014, , .		2
78	Optimistic transactional boosting. , 2014, , .		13
79	Automated Data Partitioning for Highly Scalable and Strongly Consistent Transactions. , 2014, , .		3
80	Applying source level auto-vectorization to Aparapi Java. , 2014, , .		1
81	Archie. , 2014, , .		21
82	Optimistic transactional boosting. ACM SIGPLAN Notices, 2014, 49, 387-388.	0.2	8
83	On Cache-Aware Task Partitioning for Multicore Embedded Real-Time Systems. , 2014, , .		1
84	Remote Invalidation: Optimizing the Critical Path of Memory Transactions. , 2014, , .		6
85	Adaptive Live Migration to Improve Load Balancing in Virtual Machine Environment. Lecture Notes in Computer Science, 2014, , 116-125.	1.0	12
86	On Making Transactional Applications Resilient to Data Corruption Faults. , 2014, , .		0
87	Managing Soft-Errors in Transactional Systems. , 2014, , .		1
88	Distributed Transactional Contention Management as the Traveling Salesman Problem. Lecture Notes in Computer Science, 2014, , 54-67.	1.0	12
89	On Developing Optimistic Transactional Lazy Set. Lecture Notes in Computer Science, 2014, , 437-452.	1.0	10
90	Be General and Donâ€™t Give Up Consistency in Geo-Replicated Transactional Systems. Lecture Notes in Computer Science, 2014, , 33-48.	1.0	13

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91	HiperTM: High Performance, Fault-Tolerant Transactional Memory. Lecture Notes in Computer Science, 2014, , 181-196.	1.0	11
92	Least-Latency Routing over Time-Dependent Wireless Sensor Networks. IEEE Transactions on Computers, 2013, 62, 969-983.	2.4	17
93	Scheduling Transactions in Replicated Distributed Software Transactional Memory. , 2013, , .		6
94	On real-time STM concurrency control for embedded software with improved schedulability. , 2013, , .		2
95	FBLT: A Real-Time Contention Manager with Improved Schedulability. , 2013, , .		0
96	On transactional memory concurrency control in distributed real-time programs. , 2013, , .		2
97	On Closed Nesting and Checkpointing in Fault-Tolerant Distributed Transactional Memory. , 2013, , .		6
98	Probability-Based Prediction and Sleep Scheduling for Energy-Efficient Target Tracking in Sensor Networks. IEEE Transactions on Mobile Computing, 2013, 12, 735-747.	3.9	80
99	SMASH. , 2013, , .		0
100	On high performance distributed transactional data structures. , 2013, , .		0
101	Automated data partitioning for independent distributed transactions. , 2013, , .		0
102	HSG-LM. , 2013, , .		16
103	HyflowCPP: A Distributed Transactional Memory Framework for C++. , 2013, , .		5
104	On the Viability of Speculative Transactional Replication in Database Systems: A Case Study with PostgreSQL. , 2013, , .		2
105	Hyflow2. , 2013, , .		23
106	Scheduling Open-Nested Transactions in Distributed Transactional Memory. Lecture Notes in Computer Science, 2013, , 105-120.	1.0	1
107	ByteSTM: Virtual Machine-Level Java Software Transactional Memory. Lecture Notes in Computer Science, 2013, , 166-180.	1.0	2
108	Implementing distributable real-time threads in the Linux kernel. , 2012, , .		0

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109	A framework accommodating categorized multiprocessor real-time scheduling in the RTSJ. , 2012, , .		3
110	On open nesting in distributed transactional memory. , 2012, , .		11
111	An experimental evaluation of the scalability of real-time scheduling algorithms on large-scale multicore platforms. Journal of Experimental Algorithmics, 2012, 17, .	0.7	3
112	An experimental evaluation of real-time DVFS scheduling algorithms. , 2012, , .		34
113	VPC: Scalable, Low Downtime Checkpointing for Virtual Clusters. , 2012, , .		6
114	STM concurrency control for embedded real-time software with tighter time bounds. , 2012, , .		8
115	STM concurrency control for multicore embedded real-time software. , 2012, , .		5
116	Transactional Forwarding: Supporting Highly-Concurrent STM in Asynchronous Distributed Systems. , 2012, , .		11
117	Scheduling Closed-Nested Transactions in Distributed Transactional Memory. , 2012, , .		3
118	Completely Distributed Particle Filters for Target Tracking in Sensor Networks. , 2011, , .		15
119	An Automatic Presence Service for Low Duty-Cycled Mobile Sensor Networks. Mobile Networks and Applications, 2011, 16, 460-474.	2.2	1
120	Achieving Maxâ€"Min lifetime and fairness with rate allocation for data aggregation in sensor networks. Ad Hoc Networks, 2011, 9, 821-834.	3.4	17
121	HyFlow. , 2011, , .		22
122	On STM concurrency control for multicore embedded real-time software. , 2011, , .		1
123	ChronOS Linux. , 2011, , .		23
124	Self-organizing and self-reconfigurable event routing in ad hoc networks with causal dependency awareness. ACM Transactions on Autonomous and Adaptive Systems, 2011, 6, 1-28.	0.4	0
125	Snake: Control Flow Distributed Software Transactional Memory. Lecture Notes in Computer Science, 2011, , 238-252.	1.0	11
126	A Quorum-Based Replication Framework for Distributed Software Transactional Memory. Lecture Notes in Computer Science, 2011, , 18-33.	1.0	5

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127	Enhancing the Performance of High Availability Lightweight Live Migration. Lecture Notes in Computer Science, 2011, , 50-64.	1.0	3
128	Utility accrual real-time scheduling for multiprocessor embedded systems. Journal of Parallel and Distributed Computing, 2010, 70, 101-110.	2.7	7
129	Tâ€"L plane-based real-time scheduling for homogeneous multiprocessors. Journal of Parallel and Distributed Computing, 2010, 70, 225-236.	2.7	14
130	On Distributed Time-Dependent Shortest Paths over Duty-Cycled Wireless Sensor Networks. , 2010, , .		30
131	Lock-free synchronization for dynamic embedded real-time systems. Transactions on Embedded Computing Systems, 2010, 9, 1-28.	2.1	4
132	Efficient Opportunistic Broadcasting over Duty-Cycled Wireless Sensor Networks. , 2010, , .		6
133	Heterogenous Quorum-Based Wake-Up Scheduling in Wireless Sensor Networks. IEEE Transactions on Computers, 2010, 59, 1562-1575.	2.4	85
134	Recovering from distributable thread failures in distributed real-time Java. Transactions on Embedded Computing Systems, 2010, 10, 1-37.	2.1	3
135	Dynamic analysis of the relay cache-coherence protocol for distributed transactional memory. , 2010, , .		10
136	On Transactional Scheduling in Distributed Transactional Memory Systems. Lecture Notes in Computer Science, 2010, , 347-361.	1.0	15
137	On Minimizing Average End-to-End Delay in P2P Live Streaming Systems. Lecture Notes in Computer Science, 2010, , 459-474.	1.0	3
138	Lightweight Live Migration for High Availability Cluster Service. Lecture Notes in Computer Science, 2010, , 420-434.	1.0	5
139	On Best-Effort Utility Accrual Real-Time Scheduling on Multiprocessors. Lecture Notes in Computer Science, 2010, , 270-285.	1.0	6
140	Garbage Collector Scheduling in Dynamic, Multiprocessor Real-Time Systems. IEEE Transactions on Parallel and Distributed Systems, 2009, 20, 845-856.	4.0	3
141	On bounding response times under software transactional memory in distributed multiprocessor real-time systems. , 2009, , .		12
142	Response time analysis of software transactional memory-based distributed real-time systems. , 2009, , .		19
143	On scheduling soft real-time tasks with lock-free synchronization for embedded devices. , 2009, , .		3
144	Opportunistic real-time routing in multi-hop wireless sensor networks. , 2009, , .		26

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145	An approximation algorithm for minimum-delay peer-to-peer streaming. , 2009, , .		14
146	Location-Aware Cache-Coherence Protocols for Distributed Transactional Contention Management in Metric-Space Networks. , 2009, , .		4
147	On real-time capacity of event-driven data-gathering sensor networks. , 2009, , .		3
148	CFlood: A Constrained Flooding Protocol for Real-time Data Delivery in Wireless Sensor Networks. Lecture Notes in Computer Science, 2009, , 413-427.	1.0	5
149	RTQG: Real-Time Quorum-based Gossip Protocol for Unreliable Networks. , 2008, , .		4
150	On a Self-Organizing MANET Event Routing Architecture with Causal Dependency Awareness. , 2008, , .		2
151	Integrated Real-Time Scheduling and Communication with Probabilistic Timing Assurances in Unreliable Distributed Systems. , 2008, , .		3
152	Rate Allocation with Lifetime Maximization and Fairness for Data Aggregation in Sensor Networks. , 2008, , .		1
153	RTRD: Real-Time and Reliable Data Delivery in Ad Hoc Networks. , 2008, , .		1
154	RT-P2P: A Scalable Real-Time Peer-to-Peer System with Probabilistic Timing Assurances. , 2008, , .		4
155	Energy efficient sleep scheduling based on moving directions in target tracking sensor network. Parallel and Distributed Processing Symposium (IPDPS), Proceedings of the International Conference on, 2008, , .	1.0	15
156	Scheduling distributable real-time threads in the presence of crash failures and message losses. , 2008, , .		8
157	LRTG: Scheduling Distributed Real-Time Tasks in Unreliable and Untrustworthy Systems. , 2008, , .		0
158	SOQ: A Service-Oriented Quorum-Based Protocol for Resilient Real-Time Communication in Partitionable Networks. , 2008, , .		0
159	Energy Efficient Sleep Scheduling in Sensor Networks for Multiple Target Tracking. , 2008, , 498-509.		14
160	CQS-Pair: Cyclic Quorum System Pair for Wakeup Scheduling in Wireless Sensor Networks. Lecture Notes in Computer Science, 2008, , 295-310.	1.0	20
161	On Scalable Synchronization for Distributed Embedded Real-Time Systems. Lecture Notes in Computer Science, 2008, , 394-405.	1.0	4
162	Lock-Free Synchronization for Dynamic Embedded Real-Time Systems. , 2008, , 73-85.		1

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163	Scheduling Dependent Distributable Real-Time Threads in Dynamic Networked Embedded Systems. International Federation for Information Processing, 2008, , 171-180.	0.4	2
164	Fast Scheduling of Distributable Real-Time Threads with Assured End-to-End Timeliness. , 2008, , 211-225.		3
165	Probabilistic, Real-Time Scheduling of Distributable Threads Under Dependencies in Mobile, Ad Hoc Networks. , 2007, , .		5
166	RTG-L: Dependably Scheduling Real-Time Distributable Threads in Large-Scale, Unreliable Networks. , 2007, , .		12
167	Utility Accrual Real-Time Scheduling Under the Unimodal Arbitrary Arrival Model with Energy Bounds. IEEE Transactions on Computers, 2007, 56, 1358-1371.	2.4	16
168	Space-Optimal, Wait-Free Real-Time Synchronization. IEEE Transactions on Computers, 2007, 56, 373-384.	2.4	8
169	Utility Accrual Real-Time Scheduling under Variable Cost Functions. IEEE Transactions on Computers, 2007, 56, 385-401.	2.4	14
170	RTMG: Scheduling real-time distributable threads in large-scale, unreliable networks with low message overhead. , 2007, , .		2
171	On Best-Effort Real-Time Assurances for Recovering from Distributable Thread Failures in Distributed Real-Time Systems. , 2007, , .		6
172	Synchronization for an optimal real-time scheduling algorithm on multiprocessors. , 2007, , .		11
173	On scheduling garbage collector in dynamic real-time systems with statistical timing assurances. Real-Time Systems, 2007, 36, 23-46.	1.1	5
174	Consensus-Driven Distributable Thread Scheduling in Networked Embedded Systems. , 2007, , 247-260.		8
175	Byzantine-Tolerant, Information Propagation in Untrustworthy and Unreliable Networks. , 2007, , 207-216.		4
176	Assured-Timeliness Integrity Protocols for Distributable Real-Time Threads with in Dynamic Distributed Systems. , 2007, , 660-673.		3
177	An Optimal Real-Time Scheduling Algorithm for Multiprocessors. , 2006, , .		128
178	Recovering from Distributable Thread Failures with Assured Timeliness in Real-Time Distributed Systems. , 2006, , .		15
179	A utility accrual scheduling algorithm for real-time activities with mutual exclusion resource constraints. IEEE Transactions on Computers, 2006, 55, 454-469.	2.4	63
180	Utility accrual channel establishment in multihop networks. IEEE Transactions on Computers, 2006, 55, 428-442.	2.4	2

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181	On bounding energy consumption in dynamic, embedded real-time systems. , 2006, , .		2
182	On utility accrual processor scheduling with wait-free synchronization for embedded real-time software. , 2006, , .		1
183	Energy-efficient, utility accrual scheduling under resource constraints for mobile embedded systems. Transactions on Embedded Computing Systems, 2006, 5, 513-542.	2.1	19
184	MSA. , 2005, , .		4
185	CPU scheduling for statistically-assured real-time performance and improved energy efficiency. , 2004, , .		17
186	Energy-efficient, utility accrual scheduling under resource constraints for mobile embedded systems. , 2004, , .		9
187	Time-utility function-driven switched ethernet: packet scheduling algorithm, implementation, and feasibility analysis. IEEE Transactions on Parallel and Distributed Systems, 2004, 15, 119-133.	4.0	63
188	DPR, LPR: proactive resource allocation algorithms for asynchronous real-time distributed systems. IEEE Transactions on Computers, 2004, 53, 201-216.	2.4	7
189	A formally verified application-level framework for real-time scheduling on POSIX real-time operating systems. IEEE Transactions on Software Engineering, 2004, 30, 613-629.	4.3	51
190	Resource Management Middleware for Dynamic, Dependable Real-Time Systems. Real-Time Systems, 2001, 20, 183-196.	1.1	25
191	Utility Accrual Real-Time Scheduling under Variable Cost Functions. , 0, , .		11
192	Stochastic, Utility Accrual Real-Time Scheduling with Task-Level and System-Level Timeliness Assurances. , 0, , .		2
193	A Space-Optimal Wait-Free Real-Time Synchronization Protocol. , 0, , .		4
194	Event-Based System Architecture in Mobile Ad Hoc Networks (MANETs). Advances in Systems Analysis, Software Engineering, and High Performance Computing Book Series, 0, , 346-368.	0.5	2