

# Arvind Easwaran

## List of Publications by Year in descending order

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87  
papers

1,346  
citations

759233

12  
h-index

752698

20  
g-index

91  
all docs

91  
docs citations

91  
times ranked

731  
citing authors

#	ARTICLE	IF	CITATIONS
1	Hierarchical Scheduling Framework for Virtual Clustering of Multiprocessors. , 2008, , .		110
2	Compositional Analysis Framework Using EDP Resource Models. , 2007, , .		99
3	Demand-Based Scheduling of Mixed-Criticality Sporadic Tasks on One Processor. , 2013, , .		60
4	Optimal virtual cluster-based multiprocessor scheduling. Real-Time Systems, 2009, 43, 25-59.	1.3	59
5	Response Time Analysis of COTS-Based Multicores Considering the Contention on the Shared Memory Bus. , 2011, , .		59
6	Resource Sharing in Global Fixed-Priority Preemptive Multiprocessor Scheduling. , 2009, , .		55
7	Global EDF Schedulability Analysis for Synchronous Parallel Tasks on Multicore Platforms. , 2013, , .		51
8	A Compositional Scheduling Framework for Digital Avionics Systems. , 2009, , .		41
9	MC-Fluid: Fluid Model-Based Mixed-Criticality Scheduling on Multiprocessors. , 2014, , .		39
10	Resource Efficient Isolation Mechanisms in Mixed-Criticality Scheduling. , 2015, , .		35
11	Incremental schedulability analysis of hierarchical real-time components. , 2006, , .		29
12	MC-Fluid: Simplified and Optimally Quantified. , 2015, , .		29
13	A hierarchical framework for holistic optimization of the operations of district cooling systems. Applied Energy, 2019, 239, 23-40.	10.1	29
14	Global EDF Schedulability Analysis for Parallel Tasks on Multi-Core Platforms. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 1331-1345.	5.6	27
15	CARTS. ACM SIGBED Review, 2011, 8, 62-63.	1.8	26
16	Dynamic Budget Management with Service Guarantees for Mixed-Criticality Systems. , 2016, , .		26
17	Reach-Avoid Verification for Nonlinear Systems Based on Boundary Analysis. IEEE Transactions on Automatic Control, 2017, 62, 3518-3523.	5.7	26
18	Under-Approximating Backward Reachable Sets by Polytopes. Lecture Notes in Computer Science, 2016, , 457-476.	1.3	24

#	ARTICLE	IF	CITATIONS
19	Zero-laxity based real-time multiprocessor scheduling. Journal of Systems and Software, 2011, 84, 2324-2333.	4.5	23
20	Probabilistic analysis for mixed criticality systems using fixed priority preemptive scheduling. , 2017, , .		21
21	Maximizing Contention-Free Executions in Multiprocessor Scheduling. , 2011, , .		20
22	Compositional Schedulability Analysis of Hierarchical Real-Time Systems. , 2007, , .		19
23	Towards safe machine learning for CPS. , 2019, , .		19
24	Steering of Discrete Event Systems: Control Theory Approach. Electronic Notes in Theoretical Computer Science, 2006, 144, 21-39.	0.9	18
25	LLF Schedulability Analysis on Multiprocessor Platforms. , 2010, , .		18
26	Composition of Schedulability Analyses for Real-Time Multiprocessor Systems. IEEE Transactions on Computers, 2015, 64, 941-954.	3.4	17
27	Compositional Feasibility Analysis of Conditional Real-Time Task Models. , 2008, , .		16
28	Mapping Time-Critical Safety-Critical Cyber Physical Systems to Hybrid FPGAs. , 2014, , .		16
29	Underapproximating Backward Reachable Sets by Semialgebraic Sets. IEEE Transactions on Automatic Control, 2017, 62, 5185-5197.	5.7	14
30	Scheduling Parallel Real-Time Tasks on the Minimum Number of Processors. IEEE Transactions on Parallel and Distributed Systems, 2020, 31, 171-186.	5.6	14
31	Provably good multiprocessor scheduling with resource sharing. Real-Time Systems, 2010, 46, 153-159.	1.3	13
32	Extending Task-level to Job-level Fixed Priority Assignment and Schedulability Analysis Using Pseudo-deadlines. , 2012, , .		13
33	Challenges in Digital Twin Development for Cyber-Physical Production Systems. Lecture Notes in Computer Science, 2019, , 28-48.	1.3	13
34	TiLA: Twin-in-the-Loop Architecture for Cyber-Physical Production Systems. , 2019, , .		13
35	Contention-free executions for real-time multiprocessor scheduling. Transactions on Embedded Computing Systems, 2014, 13, 1-25.	2.9	12
36	A Scenario-Based Branch-and-Bound Approach for MES Scheduling in Urban Buildings. IEEE Transactions on Industrial Informatics, 2020, 16, 7510-7520.	11.3	12

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37	Laxity dynamics and LLF schedulability analysis on multiprocessor platforms. <i>Real-Time Systems</i> , 2012, 48, 716-749.	1.3	11
38	Evaluation of an artificial pancreas in in silico patients with online-tuned internal model control. <i>Biomedical Signal Processing and Control</i> , 2018, 41, 198-209.	5.7	11
39	Crossbar-Constrained Technology Mapping for ReRAM Based In-Memory Computing. <i>IEEE Transactions on Computers</i> , 2020, 69, 734-748.	3.4	11
40	Area-constrained technology mapping for in-memory computing using ReRAM devices. , 2017, , .		10
41	Dynamic budget management and budget reclamation for mixed-criticality systems. <i>Real-Time Systems</i> , 2019, 55, 552-597.	1.3	10
42	PAC Model Checking of Black-Box Continuous-Time Dynamical Systems. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2020, 39, 3944-3955.	2.7	10
43	Contract-Based Hierarchical Resilience Management for Cyber-Physical Systems. <i>Computer</i> , 2018, 51, 56-65.	1.1	9
44	Mixed-Criticality Scheduling on Multiprocessors with Service Guarantees. , 2018, , .		8
45	Managing Industrial Communication Delays with Software-Defined Networking. , 2019, , .		8
46	Real-Time Energy Monitoring in IoT-enabled Mobile Devices. , 2020, , .		8
47	Convex optimization framework for intermediate deadline assignment in soft and hard real-time distributed systems. <i>Journal of Systems and Software</i> , 2012, 85, 2331-2339.	4.5	7
48	SlotSwapper. <i>ACM SIGBED Review</i> , 2020, 16, 32-37.	1.8	7
49	Simulation of Simultaneous Events in Regular Expressions for Run-Time Verification. <i>Electronic Notes in Theoretical Computer Science</i> , 2005, 113, 123-143.	0.9	6
50	Utilization difference based partitioned scheduling of mixed-criticality systems. , 2017, , .		6
51	MC-Fluid: Multi-Core Fluid-Based Mixed-Criticality Scheduling. <i>IEEE Transactions on Computers</i> , 2018, 67, 469-483.	3.4	6
52	A Practical Degradation Model for Mixed-Criticality Systems. , 2019, , .		6
53	Combining Task-level and System-level Scheduling Modes for Mixed Criticality Systems. , 2019, , .		6
54	A schedule randomization policy to mitigate timing attacks in WirelessHART networks. <i>Real-Time Systems</i> , 2020, 56, 452-489.	1.3	6

#	ARTICLE	IF	CITATIONS
55	A Game-Theoretic Approach to Secure Estimation and Control for Cyber-Physical Systems with a Digital Twin. , 2020, , .		6
56	Embedded out-of-distribution detection on an autonomous robot platform. , 2021, , .		6
57	Multiprocessor real-time scheduling considering concurrency and urgency. ACM SIGBED Review, 2010, 7, 1-5.	1.8	5
58	Online robust optimization framework for QoS guarantees in distributed soft real-time systems. , 2010, , .		5
59	Model-based analysis of Timed-Triggered Ethernet. , 2012, , .		5
60	A systematic security analysis of real-time cyber-physical systems. , 2017, , .		5
61	Design of an online-tuned model based compound controller for a fully automated artificial pancreas. Medical and Biological Engineering and Computing, 2019, 57, 1437-1449.	2.8	5
62	Contract-Based Methodology for Developing Resilient Cyber-Infrastructure in the Industry 4.0 Era. IEEE Embedded Systems Letters, 2019, 11, 5-8.	1.9	5
63	Efficient decentralized active balancing strategy for smart battery cells. , 2017, , .		4
64	Multi-rate fluid scheduling of mixed-criticality systems on multiprocessors. Real-Time Systems, 2018, 54, 247-277.	1.3	4
65	Flow Network-Based Real-Time Scheduling for Reducing Static Energy Consumption on Multiprocessors. IEEE Access, 2019, 7, 1330-1344.	4.2	4
66	Resilience Bounds of Network Clock Synchronization with Fault Correction. ACM Transactions on Sensor Networks, 2020, 16, 1-30.	3.6	4
67	Probably Approximate Safety Verification of Hybrid Dynamical Systems. Lecture Notes in Computer Science, 2019, , 236-252.	1.3	4
68	CLAIR: A Contract-Based Framework for Developing Resilient CPS Architectures. , 2018, , .		3
69	Automatic Generation of Hierarchical Contracts for Resilience in Cyber-Physical Systems. , 2019, , .		3
70	Scheduling Sporadic Tasks on Multiprocessors with Mutual Exclusion Constraints. , 2009, , .		2
71	Towards Overhead-Free Interface Theory for Compositional Hierarchical Real-Time Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 2869-2880.	2.7	2
72	Predictability and Performance Aware Replacement Policy PVISAM for Unified Shared Caches in Real-time Multicores. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 2720-2731.	2.7	2

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73	Contract-based hierarchical resilience framework for cyber-physical systems. , 2019, , .		2
74	Flow Network Models for Online Scheduling Real-Time Tasks on Multiprocessors. IEEE Access, 2020, 8, 172136-172151.	4.2	2
75	Towards compositional mixed-criticality real-time scheduling in open systems. ACM SIGBED Review, 2016, 13, 49-51.	1.8	1
76	Efficient Schedulability Test for Dynamic-Priority Scheduling of Mixed-Criticality Real-Time Systems. Transactions on Embedded Computing Systems, 2018, 17, 1-24.	2.9	1
77	Resilience Bounds of Sensing-Based Network Clock Synchronization. , 2018, , .		1
78	Linearization based Safety Verification of a Glucose Control Protocol. , 2019, , .		1
79	WiP Abstract: Mobility-based Load Balancing for IoT-enabled Devices in Smart Grids. , 2020, , .		1
80	Poster Abstract: C-Sync: The Resilient Time Synchronization Protocol. , 2020, , .		1
81	Holistic optimization of the operation of a GCHP system: A case study on the ADREAM building in Toulouse, France. Applied Energy, 2022, 321, 119377.	10.1	1
82	WiP Abstract: A Novel Strategy for Active Cell Balancing. , 2016, , .		0
83	A Self-Reconfiguring Cache Architecture to Improve Control Quality in Cyber-Physical Systems. , 2018, , .		0
84	Design and Analysis for Dual Priority Scheduling. , 2018, , .		0
85	Guest Editor Introduction. IEEE Embedded Systems Letters, 2019, 11, 33-33.	1.9	0
86	Efficiently Safe: Decoding the Dichotomy in Mixed-Criticality Systems. , 2020, , .		0
87	Message from the ISORC 2018 General Co-Chairs. , 2018, , .		0