Samarjit Chakraborty

List of Publications by Citations

232 papers	2,286 citations	22 h-index	32 g-index
309 ext. papers	2,968 ext. citations	2.2 avg, IF	5.09 L-index

#	Paper	IF	Citations
232	A general framework for analysing system properties in platform-based embedded system designs		117
231	Performance evaluation of network processor architectures: combining simulation with analytical estimation. *Computer Networks*, **2003**, 41, 641-665	5.4	59
230	Design and architectures for dependable embedded systems **2011**,		58
229	Security challenges in automotive hardware/software architecture design **2013**,		53
228	A hybrid approach to cyber-physical systems verification **2012**,		41
227	Automotive CyberPhysical Systems: A Tutorial Introduction. *IEEE Design and Test*, **2016**, 33, 92-108	1.4	41
226	Security in Automotive Networks. *ACM Transactions on Design Automation of Electronic Systems*, **2017**, 22, 1-27	1.5	37
225	Embedded systems and software challenges in electric vehicles **2012**,		36
224	Task- and network-level schedule co-synthesis of Ethernet-based time-triggered systems **2014**,		32
223	Control theory-based DVS for interactive 3D games **2008**,		32
222	Games are up for DVFS **2006**,		32
221	Smart Cells for Embedded Battery Management **2014**,		31
220	Safety Evaluation of Automotive Electronics Using Virtual Prototypes **2014**,		27
219	Automotive Electrical and Electronic Architecture Security via Distributed In-Vehicle Traffic Monitoring. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2017**, 36, 1790-1803	2.5	26
218	Modular Active Charge Balancing for Scalable Battery Packs. *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, **2017**, 25, 974-987	2.6	26
217	Relaxing Signal Delay Constraints in Distributed Embedded Controllers. *IEEE Transactions on Control Systems Technology*, **2014**, 22, 2337-2345	4.8	26
216	Modular scheduling of distributed heterogeneous time-triggered automotive systems **2012**,		26

215	Challenges in automotive cyber-physical systems design **2012**,		25
214	Performance analysis of FlexRay-based ECU networks. *Proceedings - Design Automation Conference*, **2007**,		25
213	Security analysis of automotive architectures using probabilistic model checking **2015**,		24
212	Lightweight graphics instrumentation for game state-specific power management in Android. *Multimedia Systems*, **2014**, 20, 563-578	2.2	23
211	Resource-aware Automotive Control Systems Design: A Cyber-Physical Systems Approach. *Foundations and Trends in Electronic Design Automation*, **2016**, 10, 249-369	1	23
210	Heat exchanger network synthesis: the possibility of randomization. *Chemical Engineering Journal*, **1999**, 72, 209-216	14.7	22
209	Resource Augmentation Bounds for Approximate Demand Bound Functions **2011**,		21
208	Time-triggered implementations of mixed-criticality automotive software **2012**,		21
207	Embedded Software in Network Processors Models and Algorithms. *Lecture Notes in Computer Science*, **2001**, 416-434	0.9	21
206	A Hybrid DVS Scheme for Interactive 3D Games **2008**,		20
205	Power Management of Interactive 3D Games Using Frame Structures **2008**,		20
204	Distributed reconfigurable Battery System Management Architectures **2016**,		20
203	Neighbor Discovery Latency in BLE-Like Protocols. *IEEE Transactions on Mobile Computing*, **2018**, 17, 617-631	4.3	20
202	Lightweight Authentication for Secure Automotive Networks **2015**,		19
201	LMS-based low-complexity game workload prediction for DVFS **2010**,		19
200	Interface-Based Rate Analysis of Embedded Systems **2006**,		19
199	DVS for buffer-constrained architectures with predictable QoS-energy tradeoffs **2005**,		19
198	Multi-layered scheduling of mixed-criticality cyber-physical systems. *Journal of Systems Architecture* , **2013**, 59, 1215-1230	5.5	18

197	System architecture and software design for electric vehicles **2013**,		18
196	Modular system-level architecture for concurrent cell balancing **2013**,		18
195	Co-design of cyber-physical systems via controllers with flexible delay constraints **2011**,		18
194	**2007**,		18
193			18
192	Tuning SoC platforms for multimedia processing **2004**,		18
191	Memory-Aware Embedded Control Systems Design. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2017**, 36, 586-599	2.5	17
190	Context-sensitive timing analysis of Esterel programs **2009**,		17
189	Schedulability analysis of non-preemptive recurring real-time tasks **2006**,		17
188	Reliability challenges for electric vehicles **2013**,		16
187	Optimizing hierarchical schedules for improved control performance **2010**,		16
186	Constraint-driven synthesis and tool-support for FlexRay-based automotive control systems **2011**,		16
185	A Multi-mode Real-Time Calculus **2008**,		16
184	Performance analysis of multiprocessor DSPs: a stream-oriented component model. *IEEE Signal Processing Magazine*, **2005**, 22, 38-46	9.4	16
183	Multi-Objective Co-Optimization of FlexRay-Based Distributed Control Systems **2016**,		15
182	Performance debugging of Esterel specifications **2008**,		15
181	A framework for evaluating design tradeoffs in packet processing architectures. *Proceedings - Design Automation Conference*, **2002**,		15
180	. *IEEE Transactions on Computers*, **2017**, 66, 1790-1803	2.5	14

179	Battery assignment and scheduling for drone delivery businesses **2017**,		14
178	A new task model for streaming applications and its schedulability analysis		14
177	Rate analysis for streaming applications with on-chip buffer constraints		14
176	On Battery Recovery Effect in Wireless Sensor Nodes. *ACM Transactions on Design Automation of Electronic Systems*, **2016**, 21, 1-28	1.5	14
175	On the Complexity of Scheduling Conditional Real-Time Code. *Lecture Notes in Computer Science*, **2001**, 38-49	0.9	14
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173	Battery- and Aging-Aware Embedded Control Systems for Electric Vehicles **2014**,		13
172	Partitioned Packing and Scheduling for Sporadic Real-Time Tasks in Identical Multiprocessor Systems **2012**,		13
171	Schedulability Analysis for Processors with Aging-Aware Autonomic Frequency Scaling **2012**,		13
170	Multirate controller design for resource- and schedule-constrained automotive ECUs **2013**,		13
169	Composing Functional and State-Based Performance Models for Analyzing Heterogeneous Real-Time Systems **2007**,		13
168	Cyber-Physical Co-Simulation Framework for Smart Cells in Scalable Battery Packs. *ACM Transactions on Design Automation of Electronic Systems*, **2016**, 21, 1-26	1.5	13
167	Cyber-Physical Systems Design for Electric Vehicles **2012**,		12
166	VM-Based Real-Time Services for Automotive Control Applications **2010**,		12
165	Computing Largest Common Point Sets under Approximate Congruence. *Lecture Notes in Computer Science*, **2000**, 52-64	0.9	12
164	Time Series Characterization of Gaming Workload for Runtime Power Management. *IEEE Transactions on Computers*, **2015**, 64, 260-273	2.5	11
163	Schedule Integration Framework for Time-Triggered Automotive Architectures **2014**,		11
162	Using offline bitstream analysis for power-aware video decoding in portable devices **2005**,		11

161	Reliable CPS Design for Mitigating Semiconductor and Battery Aging in Electric Vehicles **2015**,		10
160	Semantics-Preserving Cosynthesis of Cyber-Physical Systems. *Proceedings of the IEEE*, **2018**, 106, 171-200	4.3	10
159	SOH-aware active cell balancing strategy for high power battery packs **2018**,		10
158	Testing automotive embedded systems under X-in-the-loop setups **2016**,		10
157	Griassdi **2017**,		10
156	Managing power for closed-source android os games by lightweight graphics instrumentation **2012** ,		10
155	Power management using game state detection on android smartphones **2013**,		10
154	Comparing Bluetooth HDP and SPP for Mobile Health Devices **2010**,		10
153	Optimized Schedule Synthesis under Real-Time Constraints for the Dynamic Segment of FlexRay **2010**,		10
152	Approximation Algorithms for 3-D Common Substructure Identification in Drug and Protein Molecules. *Lecture Notes in Computer Science*, **1999**, 253-264	0.9	10
151	Many-to-many active cell balancing strategy design **2015**,		9
150	ExPerio Exploiting periodicity for opportunistic energy-efficient data transmission **2015**,		9
149	Open source model and simulator for real-time performance analysis of automotive network security. *ACM SIGBED Review*, **2016**, 13, 8-13	1.3	9
148	OS-Aware Automotive Controller Design Using Non-Uniform Sampling. *ACM Transactions on Cyber-Physical Systems*, **2018**, 2, 1-22	2.3	9
147	Design Methods for Augmented Reality In-Vehicle Infotainment Systems **2014**,		9
146	Automatic generation of topological indoor maps for real-time map-based localization and tracking **2011**,		9
145	The Arbitrated Networked Control Systems Approach to Designing Cyber-Physical Systems*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 174-179		9
144	Timing Analysis of Mixed Time/Event-Triggered Multi-Mode Systems **2009**,		9

143	Arbitrated Network Control Systems: A Co-Design of Control and Platform for Cyber-Physical Systems. *Lecture Notes in Control and Information Sciences*, **2013**, 339-356	0.5	9
142	Design space exploration of drone infrastructure for large-scale delivery services **2016**,		9
141	Multischedule Synthesis for Variant Management in Automotive Time-Triggered Systems. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2016**, 35, 637-650	2.5	8
140	**2009**,		8
139	Designing heterogeneous ECU networks via compact architecture encoding and hybrid timing analysis **2009**,		8
138	Cache-aware timing analysis of streaming applications. *Real-Time Systems*, **2009**, 41, 52-85	1.3	8
137	Adaptive switching controllers for systems with hybrid communication protocols **2012**,		8
136	Evaluating design trade-offs in customizable processors **2009**,		8
135	Timing analysis of esterel programs on general-purpose multiprocessors **2010**,		8
134	Energy Modeling for the Bluetooth Low Energy Protocol. *Transactions on Embedded Computing Systems*, **2020**, 19, 1-32	1.8	8
133	Frame-based and thread-based power management for mobile games on HMP platforms **2016**,		8
132	Web browser workload characterization for power management on HMP platforms **2016**,		8
131	Adaptive online power-management for Bluetooth Low Energy **2015**,		7
130	Quantifying Notions of Extensibility in FlexRay Schedule Synthesis. *ACM Transactions on Design Automation of Electronic Systems*, **2014**, 19, 1-37	1.5	7
129	Video Quality Driven Buffer Sizing via Frame Drops **2011**,		7
128	On the quantification of sustainability and extensibility of FlexRay schedules **2011**,		7
127	Cross-layer analysis, testing and verification of automotive control software **2011**,		7
126	Approximate VCCs **2005**,		7

125	Model-based design of resource-efficient automotive control software **2016**,		7
124	**2019**,		7
123	Smart2: Smart Charging for Smart Phones **2015**,		6
122	Resource augmentation for uniprocessor and multiprocessor partitioned scheduling of sporadic real-time tasks. *Real-Time Systems*, **2013**, 49, 475-516	1.3	6
121	Schedule integration for time-triggered systems **2013**,		6
120	AR-IVI Implementation of In-Vehicle Augmented Reality **2014**,		6
119	**2014**,		6
118	Performance debugging of Esterel specifications. *Real-Time Systems*, **2012**, 48, 570-600	1.3	6
117	Constant-time admission control for Deadline Monotonic tasks **2010**,		6
116	High-level timing analysis of concurrent applications on MPSoC platforms using memory-aware trace-driven simulations **2010**,		6
115	On buffering with stochastic guarantees in resource-constrained media players **2011**,		6
114	Designing VM schedulers for embedded real-time applications **2011**,		6
113	Concurrent architecture and schedule optimization of time-triggered automotive systems **2012**,		6
112	Timing analysis of cyber-physical applications for hybrid communication protocols **2012**,		6
111	Dynamic Alternation of Huffman Codebooks for Sensor Data Compression. *IEEE Embedded Systems Letters*, **2017**, 9, 81-84	1	5
110	Tighter Dimensioning of Heterogeneous Multi-Resource Autonomous CPS with Control Performance Guarantees **2019**,		5
109	TIC: a scalable model checking based approach to WCET estimation **2016**,		5
108	Optimal Dimensioning and Control of Active Cell Balancing Architectures. *IEEE Transactions on Vehicular Technology*, **2019**, 68, 9632-9646	6.8	5

107	Priority assignment for event-triggered systems using mathematical programming **2013**,		5
106	Policy-based message scheduling using FlexRay **2014**,		5
105	The Medical Cyber-physical Systems Activity at EIT: A Look under the Hood **2014**,		5
104	Model-based development and verification of control software for electric vehicles **2013**,		5
103	Multiprocessor extensions to real-time calculus. *Real-Time Systems*, **2011**, 47, 562-617	1.3	5
102	Schedulability analysis of distributed cyber-physical applications on mixed time-/event-triggered bus architectures with retransmissions **2011**,		5
101	Robust image processing for an omnidirectional camera-based smart car door. *Transactions on Embedded Computing Systems*, **2012**, 11, 1-28	1.8	5
100	GPU-based Acceleration of System-level Design Tasks. *International Journal of Parallel Programming* , **2010**, 38, 225-253	1.5	5
99	Fast Schedulability Analysis Using Commodity Graphics Hardware. *Gifted and Talented International*, **2007**,	1	5
98	. *IEEE Design and Test of Computers*, **2004**, 21, 368-377		5
97	Processor frequency selection for SoC platforms for multimedia applications		5
96	TTW: A Time-Triggered Wireless design for CPS **2018**,		5
95	Extensibility-Driven Automotive In-Vehicle Architecture Design **2017**,		4
94	On optimal neighbor discovery **2019**,		4
93	Formal verification of distributed controllers using Time-Stamped Event Count Automata **2013**,		4
92	Inductor Optimization for Active Cell Balancing using Geometric Programming **2015**,		4
91	Fault-tolerant embedded control systems for unreliable hardware **2014**,		4
90	Constant-Time Admission Control for Partitioned EDF **2010**,		4

89	FlexRay switch scheduling A networking concept for electric vehicles **2011**,		4
88	Lightweight Modeling of Complex State Dependencies in Stream Processing Systems **2009**,		4
87	Accelerating System-Level Design Tasks Using Commodity Graphics Hardware: A Case Study **2009**,		4
86	Intra- and inter-processor hybrid performance modeling for MPSoC architectures **2008**,		4
85	GigE Vision Data Acquisition for Visual Servoing using SG/DMA Proxying **2016**,		4
84	Schedule Management Framework for Cloud-Based Future Automotive Software Systems **2016**,		4
83	Optimal dimensioning of active cell balancing architectures **2014**,		3
82	Fault-tolerant control synthesis and verification of distributed embedded systems **2014**,		3
81	Compositional analysis of switched Ethernet topologies **2013**,		3
80	Rapid Analysis of Active Cell Balancing Circuits. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2017**, 36, 694-698	2.5	3
79	Effectively utilizing elastic resources in networked control systems **2017**,		3
78	Guest Editorial Special Section on Automotive Embedded Systems and Software. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **2015**, 34, 1701-1703	2.5	3
77	Timing challenges in automotive software architectures **2014**,		3
76	Reliability-Aware Instruction Set Customization for ASIPs with Hardened Logic **2012**,		3
75	Program-aware circuit level timing analysis **2011**,		3
74	Schedulability Analysis of MSC-based System Models **2008**,		3
73	Application-specific workload shaping in multimedia-enabled personal mobile devices. *Transactions on Embedded Computing Systems*, **2008**, 7, 1-22	1.8	3
72	Reducing data-memory footprint of multimedia applications by delay redistribution. *Proceedings - Design Automation Conference*, **2007**,		3

71	Interactive Schedulability Analysis		3
70	Generating an action notation environment from Montages descriptions. *International Journal on Software Tools for Technology Transfer*, **2001**, 3, 431-455	1.3	3
69	CPS-oriented Modeling and Control of Traffic Signals Using Adaptive Back Pressure **2020**,		3
68	How reliable is smartphone-based electronic contact tracing for COVID-19?. *Communications of the ACM*, **2022**, 65, 56-67	2.5	3
67	Control/Architecture Codesign for Cyber-Physical Systems **2017**, 1221-1260		3
66	Automated synthesis of cyber-physical systems from joint controller/architecture specifications **2016**,		3
65	Unsupervised and Supervised Learning with the Random Forest Algorithm for Traffic Scenario Clustering and Classification **2019**,		3
64	Multi-Pattern Active Cell Balancing Architecture and Equalization Strategy for Battery Packs **2018**,		3
63	In Situ Latency Monitoring for Heterogeneous Real-Time Systems **2019**,		2
62	Efficient lossless compression for depth information in traffic scenarios. *Multimedia Systems*, **2019**, 25, 293-306	2.2	2
61	User-centric Resource Management for Embedded Multi-core Processors **2020**,		2
60	Design optimization of photovoltaic arrays on curved surfaces **2018**,		2
59	Optimal dimensioning of active cell balancing architectures **2014**,		2
58	Decentralized diagnosis of permanent faults in automotive E/E architectures **2015**,		2
57	Dynamic Platforms for Uncertainty Management in Future Automotive E/E Architectures **2017**,		2
56	Estimating the Limits of CPU Power Management for Mobile Games **2017**,		2
55	Hybrid Apps: Apps for the Internet of Things **2015**,		2
54	Reconfigurable Communication Middleware for Flex Ray-Based Distributed Embedded Systems **2015**,		2

53	Aging mitigation of power supply-connected batteries **2014**,		2
52	Stochastic modeling and performance analysis of multimedia SoCs **2013**,		2
51	How to engineer tool-chains for automotive E/E architectures?. *ACM SIGBED Review*, **2013**, 10, 6-15	1.3	2
50	Dimensioning and configuration of EES systems for electric vehicles with boundary-conditioned adaptive scalarization **2013**,		2
49	Timing and schedulability analysis for distributed automotive control applications **2011**,		2
48	Design space exploration of instruction set customizable MPSoCs for multimedia applications **2010**,		2
47	Shadow-based vehicle model refinement and tracking in advanced automotive driver assistance systems **2011**,		2
46	Application-specific workload shaping in multimedia-enabled personal mobile devices **2006**,		2
45	Performance Debugging of Real-Time Systems Using Multicriteria Schedulability Analysis **2007**,		2
44	Analytic curve detection from a noisy binary edge map using genetic algorithm. *Lecture Notes in Computer Science*, **1998**, 129-138	0.9	2
43	Optimizing BLE-Like Neighbor Discovery. *IEEE Transactions on Mobile Computing*, **2020**, 1-1	4.6	2
42	A Programmable Open Architecture Testbed for CPS Education. *IEEE Design and Test*, **2020**, 37, 31-38	1.4	2
41	Intelligent Chargers Will Make Mobile Devices Live Longer. *IEEE Design and Test*, **2020**, 37, 42-49	1.4	2
40	EG0N: Portable in-situ energy measurement for low-power sensor devices **2016**,		2
39	Timing Debugging for Cyber-Physical Systems **2021**,		2
38	Design automation for battery systems **2018**,		2
37	Design and validation of fault-tolerant embedded controllers **2018**,		2
36	Debugging FPGA-accelerated Real-time Systems **2020**,		1

35	Cache-aware task scheduling for maximizing control performance **2018**,		1
34	Exploiting System Dynamics for Resource-Efficient Automotive CPS Design **2019**,		1
33	WCET Analysis meets Virtual Prototyping **2019**,		1
32	Understanding slotless neighbor discovery **2017**,		1
31	Specification, Verification and Design of Evolving Automotive Software **2017**,		1
30	Customizing Instruction Set Extensible Reconfigurable Processors Using GPUs **2012**,		1
29	Cache-aware optimization of BAN applications. *Design Automation for Embedded Systems*, **2009**, 13, 159-178		1
28	Near-Optimal Constant-Time Admission Control for DM Tasks via Non-uniform Approximations **2011**,		1
27	Cache-Aware Timing Analysis of Streaming Applications. *Real-Time Systems (ECRTS), Proceedings of the Euromicro Workshop on*, **2007**,		1
26	A perception-aware low-power software audio decoder for portable devices **2005**,		1
25	Meeting CPU constraints by delaying playout of multimedia tasks **2005**,		1
24	Power-aware bandwidth and stereo-image scalable audio decoding **2005**,		1
23	Introduction to the Special Issue on Transportation Cyber-Physical Systems. *ACM Transactions on Cyber-Physical Systems*, **2020**, 4, 1-3	2.3	1
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20	Model-Based Object Recognition from a Complex Binary Imagery Using Genetic Algorithm. *Lecture Notes in Computer Science*, **1999**, 150-161	0.9	1
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18	Interface-Based Design of Real-Time Systems **2012**, 83-101		1

17	Exploration of Distributed Automotive Systems Using Compositional Timing Analysis. *Embedded Systems*, **2014**, 189-204		1
16	In-Vehicle Object-Level 3D Reconstruction of Traffic Scenes. *IEEE Transactions on Intelligent Transportation Systems*, **2020**, 1-13	6.1	1
15	UBAR. *Transactions on Embedded Computing Systems*, **2021**, 20, 1-25	1.8	1
14	. *IEEE Transactions on Computers*, **2021**, 70, 1059-1073	2.5	1
13	Scalable and precise estimation and debugging of the worst-case execution time for analysis-friendly processors: a comeback of model checking. *International Journal on Software Tools for Technology Transfer*, **2019**, 21, 515-543	1.3	0
12	Interactive schedulability analysis. *Transactions on Embedded Computing Systems*, **2007**, 7, 1-27	1.8	0
11	Development and Verification of a Flight Stack for a High-Altitude Glider in Ada/SPARK 2014. *Lecture Notes in Computer Science*, **2017**, 105-116	0.9	0
10	Tuning Machine-Learning Algorithms for Battery-Operated Portable Devices. *Lecture Notes in Computer Science*, **2010**, 502-513	0.9	0
9	Design Automation for Energy Storage Systems **2019**, 261-286		
8	EMSOFT 2009 guest editors□ntroduction. *Design Automation for Embedded Systems*, **2010**, 14, 163-164	0.6	
7	Editorial for the Special Issue on Field Programmable Technology. *Journal of Signal Processing Systems*, **2007**, 47, 1-2		
6	Tool Integration for Automated Synthesis of Distributed Embedded Controllers. *ACM Transactions on Cyber-Physical Systems*, **2022**, 6, 1-31	2.3	
5	Performance Debugging of Heterogeneous Real-Time Systems **2007**, 285-300		
4	Reliable CPS Design for Unreliable Hardware Platforms. *Embedded Systems*, **2021**, 545-563		
3	Control/Architecture Codesign for Cyber-Physical Systems **2016**, 1-40		
2	Mobile Phone Assisted Cooperative On-Node Processing for Physical Activity Monitoring. *Lecture Notes in Computer Science*, **2010**, 239-251	0.9	
1	Guest Editors□ntroduction: Cross-Layer Design of Cyber□Physical Systems. *IEEE Design and Test*, **2021**, 38, 5-7	1.4	