

Sandeep K Shukla

List of Publications by Year in descending order

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Version: 2024-02-01

176
papers

1,968
citations

567144

15
h-index

377752

34
g-index

198
all docs

198
docs citations

198
times ranked

1560
citing authors

#	ARTICLE	IF	CITATIONS
1	GECO: Global Event-Driven Co-Simulation Framework for Interconnected Power System and Communication Network. IEEE Transactions on Smart Grid, 2012, 3, 1444-1456.	6.2	259
2	Algorithms for power savings. ACM Transactions on Algorithms, 2007, 3, 41.	0.9	151
3	Online strategies for dynamic power management in systems with multiple power-saving states. Transactions on Embedded Computing Systems, 2003, 2, 325-346.	2.1	143
4	Interfacing Power System and ICT Simulators: Challenges, State-of-the-Art, and Case Studies. IEEE Transactions on Smart Grid, 2018, 9, 14-24.	6.2	77
5	Power system and communication network co-simulation for smart grid applications. , 2011, , .		73
6	Machine learning in cybersecurity: A review. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2019, 9, e1306.	4.6	63
7	A Survey of Automatic Protocol Reverse Engineering Tools. ACM Computing Surveys, 2016, 48, 1-26.	16.1	60
8	Using probabilistic model checking for dynamic power management. Formal Aspects of Computing, 2005, 17, 160-176.	1.4	50
9	NANOPRISM. , 2004, , .		49
10	Cyber security impacts on all-PMU state estimator - a case study on co-simulation platform GECO. , 2012, , .		38
11	Reliability Analysis of Large Circuits Using Scalable Techniques and Tools. IEEE Transactions on Circuits and Systems I: Regular Papers, 2007, 54, 2447-2460.	3.5	35
12	A Cross-Layer Approach for Power-Performance Optimization in Distributed Mobile Systems. , 0, , .		33
13	SCGPSim: A fast SystemC simulator on GPUs. , 2010, , .		33
14	Communication network modeling and simulation for Wide Area Measurement applications. , 2012, , .		33
15	Snow cover area variability assessment in the upper part of the Satluj river basin in India. Geocarto International, 2017, 32, 1285-1306.	1.7	27
16	Glacier change and glacier runoff variation in the Himalayan Baspa river basin. Journal of Hydrology, 2021, 593, 125918.	2.3	27
17	Comparing Reliability-Redundancy Tradeoffs for Two von Neumann Multiplexing Architectures. IEEE Nanotechnology Magazine, 2007, 6, 265-279.	1.1	26
18	Hydrological modelling of a snow/glacier-fed western Himalayan basin to simulate the current and future streamflows under changing climate scenarios. Science of the Total Environment, 2021, 795, 148871.	3.9	25

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19	Modification of radiation-induced DNA double strand break repair pathways by chemicals extracted from <i>Podophyllum hexandrum</i> : An in vitro study in human blood leukocytes. <i>Environmental and Molecular Mutagenesis</i> , 2014, 55, 436-448.	0.9	23
20	Model-driven test generation for system level validation. , 2007, , .		21
21	High Level Power Estimation Models for FPGAs. , 2011, , .		21
22	Comprehensive review on Maximum Power Point Tracking techniques: <i>Wind Energy</i> . , 2015, , .		21
23	XFM. <i>ACM Transactions on Design Automation of Electronic Systems</i> , 2005, 10, 589-609.	1.9	18
24	A hierarchically distributed non-intrusive agent aided distance relaying protection scheme to supervise Zone 3. <i>International Journal of Electrical Power and Energy Systems</i> , 2013, 50, 42-49.	3.3	18
25	Agent Based Supervision of Zone 3 Relays to Prevent Hidden Failure Based Tripping. , 2010, , .		17
26	Malware Classification using Early Stage Behavioral Analysis. , 2019, , .		17
27	Dataflow Architectures for GALS. <i>Electronic Notes in Theoretical Computer Science</i> , 2008, 200, 33-50.	0.9	16
28	Power estimation methodology for a high-level synthesis framework. , 2009, , .		16
29	Targeting DNA Repair through Podophyllotoxin and Rutin Formulation in Hematopoietic Radioprotection: An in Silico, in Vitro, and in Vivo Study. <i>Frontiers in Pharmacology</i> , 2017, 8, 750.	1.6	16
30	Scalable techniques and tools for reliability analysis of large circuits. , 2007, , .		15
31	Generating Multi-Threaded code from Polychronous Specifications. <i>Electronic Notes in Theoretical Computer Science</i> , 2009, 238, 57-69.	0.9	15
32	A study of communication and power system infrastructure interdependence on PMU-based wide area monitoring and protection. , 2012, , .		15
33	Expansion of a glacial lake, Tsho Chubda, Chamkhar Chu Basin, Hindukush Himalaya, Bhutan. <i>Natural Hazards</i> , 2015, 75, 1451-1464.	1.6	14
34	Construction of a microgrid communication network. , 2014, , .		12
35	A detailed analysis of the effective-load-carrying-capacity behavior of plug-in electric vehicles in the power grid. , 2012, , .		11
36	Constructive polychronous systems. <i>Science of Computer Programming</i> , 2014, 96, 377-394.	1.5	11

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37	Heterogeneous Behavioral Hierarchy Extensions for SystemC. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2007, 26, 765-780.	1.9	10
38	Implementation of solar based PWM fed two phase interleaved boost converter. , 2015, , .		10
39	The challenge of interoperability. , 2015, , .		10
40	VSCADA: A reconfigurable virtual SCADA test-bed for simulating power utility control center operations. , 2015, , .		10
41	Flexible VLSI architectures for Galois field multipliers. The Integration VLSI Journal, 2017, 59, 109-124.	1.3	10
42	Partitioned security processor architecture on FPGA platform. IET Computers and Digital Techniques, 2018, 12, 216-226.	0.9	10
43	Verifying Compiler Based Refinement of Bluespec TM Specifications Using the SPIN Model Checker. Lecture Notes in Computer Science, 2008, , 250-269.	1.0	10
44	Model-driven validation of SystemC designs. Proceedings - Design Automation Conference, 2007, , .	0.0	9
45	MCBCG: Model Checking Based Sequential Clock-Gating. , 2009, , .		9
46	Minimizing back pressure for latency insensitive system synthesis. , 2010, , .		9
47	Co-simulating power systems and communication network for accurate modeling and simulation of PMU based wide area measurement systems using a global event scheduling technique. , 2013, , .		9
48	Challenges with Wound Infection Models in Drug Development. Current Drug Targets, 2020, 21, 1301-1312.	1.0	9
49	Typing abstractions and management in a component framework. , 2003, , .		8
50	On the Deterministic Multi-threaded Software Synthesis from Polychronous Specifications. , 2008, , .		8
51	A Methodology for Power Aware High-Level Synthesis of Co-processors from Software Algorithms. , 2010, , .		8
52	PAPR Reduction in SC-FDMA Using NCT Technique. Procedia Technology, 2013, 10, 927-934.	1.1	8
53	Design Fault Directed Test Generation for Microprocessor Validation. , 2007, , .		7
54	EWD. ACM Transactions on Design Automation of Electronic Systems, 2007, 12, 1-43.	1.9	7

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55	Multijunction Fault-Tolerance Architecture for Nanoscale Crossbar Memories. IEEE Nanotechnology Magazine, 2008, 7, 202-208.	1.1	7
56	An alternative polychronous model and synthesis methodology for model-driven embedded software. , 2010, , .		7
57	Embedding Polychrony into Synchrony. IEEE Transactions on Software Engineering, 2013, 39, 917-929.	4.3	7
58	Representation of synchronous, asynchronous, and polychronous components by clocked guarded actions. Design Automation for Embedded Systems, 2014, 18, 63-97.	0.7	7
59	$^{13}\text{H}_2\text{AX}$ formation kinetics in PBMCs of rabbits exposed to acute and fractionated radiation and attenuation of focus frequency through preadministration of a combination of podophyllotoxin and rutin hydrate. Environmental and Molecular Mutagenesis, 2016, 57, 455-468.	0.9	7
60	<I>SCoPE</I>: Statistical Regression Based Power Models for Co-Processors Power Estimation. Journal of Low Power Electronics, 2009, 5, 407-415.	0.6	7
61	A Framework for Analyzing Load-Carrying-Capacity of Plug-In Electric Vehicles and Impact on Solar Generators. , 2011, , .		7
62	Interoperability as a design issue in C++ based modeling environments. , 2001, , .		6
63	SoC Design Space Exploration through Automated IP Selection from SystemC IP Library. , 2006, , .		6
64	SML-Sys: a functional framework with multiple models of computation for modeling heterogeneous system. Design Automation for Embedded Systems, 2008, 12, 1-30.	0.7	6
65	Analysis of scheduled Latency insensitive systems with periodic clock calculus. , 2009, , .		6
66	Model-Driven Engineering and Safety-Critical Embedded Software. Computer, 2009, 42, 93-95.	1.2	6
67	Metamodeling: What is it good for?. IEEE Design and Test of Computers, 2009, 26, 96-96.	1.4	6
68	The Model Checking View to Clock Gating and Operand Isolation. , 2010, , .		6
69	SMT based false causal loop detection during code synthesis from Polychronous specifications. , 2011, , .		6
70	Networking technologies for wide-area measurement applications. , 2012, , 205-233.		6
71	THD Analysis of Eleven Level Cascaded H-Bridge Multilevel Inverter with Different Types of Load Using in Drives Applications. , 2015, , .		6
72	Cyber Security of Cyber Physical Systems: Cyber Threats and Defense of Critical Infrastructures. , 2016, , .		6

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73	Can miRNAs Serve as Potential Markers in Thermal Burn Injury: An In Silico Approach. Journal of Burn Care and Research, 2020, 41, 57-64.	0.2	6
74	Constructive Polychronous Systems. Lecture Notes in Computer Science, 2013, , 335-349.	1.0	6
75	Assertion-Based Modal Power Estimation. , 2007, , .		5
76	Distributed Simulation of AADL Specifications in a Polychronous Model of Computation. , 2009, , .		5
77	Accelerating SystemC simulations using GPUs. , 2012, , .		5
78	Offset Assignment to Signals for Improving Frame Packing in CAN-FD. , 2017, , .		5
79	Structured Component Composition Frameworks for Embedded System Design. Lecture Notes in Computer Science, 2002, , 663-678.	1.0	5
80	MMV: Metamodeling Based Microprocessor Valiation Environment. , 2006, , .		4
81	MCF: A Metamodeling-Based Component Composition Frameworkâ€”Composing SystemC IPs for Executable System Models. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2008, 16, 792-805.	2.1	4
82	Translating concurrent action oriented specifications to synchronous guarded actions. , 2010, , .		4
83	A New Multi-threaded Code Synthesis Methodology and Tool for Correct-by-Construction Synthesis from Polychronous Specifications. , 2013, , .		4
84	Asynchronous hardware implementations for crypto primitives. Microprocessors and Microsystems, 2019, 64, 221-236.	1.8	4
85	UMoC++: A C++-Based Multi-MoC Modeling Environment. , 2006, , 115-130.		4
86	On Model-Based Software Development. , 2013, , 49-60.		4
87	DOTMUG: A Threat Model for Target Specific APT Attacksâ€”Misusing Google Teachable Machine. , 2022, , .		4
88	A Functional Programming Framework for Latency Insensitive Protocol Validation. Electronic Notes in Theoretical Computer Science, 2006, 146, 169-188.	0.9	3
89	Algorithms for low power hardware synthesis from Concurrent Action Oriented Specifications (CAOS). International Journal of Embedded Systems, 2007, 3, 83.	0.2	3
90	Model Checking Bluespec Specified Hardware Designs. , 2007, , .		3

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91	Model Based Test Generation for Microprocessor Architecture Validation. , 2007, , .		3
92	Guest Editors' Introduction: GALS Design and Validation. IEEE Design and Test of Computers, 2007, 24, 414-416.	1.4	3
93	Mining metadata for composability of IPs from SystemC IP library. Design Automation for Embedded Systems, 2008, 12, 63-94.	0.7	3
94	Coprocessor design space exploration using high level synthesis. , 2010, , .		3
95	Optimization of back pressure and throughput for latency insensitive systems. , 2010, , .		3
96	System imbalance minimizing renewable generation portfolio selection in the presence of plug-in electric vehicles. , 2012, , .		3
97	Computing optimal solar penetration in the presence of plug-in electric vehicles. , 2012, , .		3
98	Study of a three level converter interfaced vector controlled DFIG system under fault. , 2013, , .		3
99	Mapping functional behavior onto architectural model in a model driven embedded system design. , 2015, , .		3
100	MCF: A Metamodeling-based Visual Component Composition Framework. , 2007, , 319-337.		3
101	Techniques for Power-Aware Hardware Synthesis from Concurrent Action Oriented Specifications. Journal of Low Power Electronics, 2007, 3, 156-166.	0.6	3
102	MRICDF: A Polychronous Model for Embedded Software Synthesis. , 2010, , 173-199.		3
103	Automated Extraction of Structural Information from SystemC-based IP for Validation. International Workshop on Microprocessor Test and Verification, 2005, , .	0.0	2
104	Special issue on formal methods for globally asynchronous and locally synchronous (GALS) systems. Formal Methods in System Design, 2006, 28, 91-92.	0.9	2
105	Tackling an Abstraction Gap: Co-simulating SystemC DE with Bluespec ESL. , 2007, , .		2
106	MMV: A Metamodeling Based Microprocessor Validation Environment. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2008, 16, 339-352.	2.1	2
107	A Trace-Based Framework for Verifiable GALS Composition of IPs. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2008, 16, 1176-1186.	2.1	2
108	Model-Driven Validation of SystemC Designs. Eurasip Journal on Embedded Systems, 2008, 2008, 519474.	1.2	2

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109	An Analysis of the Composition of Synchronous Systems. <i>Electronic Notes in Theoretical Computer Science</i> , 2009, 245, 69-84.	0.9	2
110	An algorithm for inferring master agent rules in an agent based robust Zone 3 relay architecture. , 2010, , .		2
111	Faster Software Synthesis Using Actor Elimination Techniques for Polychronous Formalism. , 2010, , .		2
112	Optimizing grid contribution and economic returns from solar generators by managing the output uncertainty risk. , 2011, , .		2
113	A hierarchical networked micro-simulator to study grid-integration of renewables and electric vehicles. , 2013, , .		2
114	Distributed VSCADA: An integrated heterogeneous framework for power system utility security modeling and simulation. , 2015, , .		2
115	Hardware optimizations for crypto implementations (Invited paper). , 2016, , .		2
116	Low power hardware implementations for network packet processing elements. <i>The Integration VLSI Journal</i> , 2018, 62, 170-181.	1.3	2
117	Timing and Carrier Frequency Offset Estimation Using Selective Extended Cyclic Prefix for Correlation Sequence for OFDM Systems. <i>Wireless Personal Communications</i> , 2018, 101, 963-977.	1.8	2
118	A Study of Inequality in the Ethereum Smart Contract Ecosystem. , 2019, , .		2
119	Low Power Hardware Synthesis from Concurrent Action-Oriented Specifications. , 2010, , .		2
120	Polychronous Methodology For System Design: A True Concurrency Approach. , 2006, , .		1
121	VT Matrix Multiply Design for MEMOCODE '07. , 2007, , .		1
122	Type Inference for IP Composition. , 2007, , .		1
123	On Cosimulating Multiple Abstraction-Level System-Level Models. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2008, 27, 394-398.	1.9	1
124	Applying Verification Collaterals for Accurate Power Estimation. , 2008, , .		1
125	Analysis of Scheduled Latency Insensitive Systems with Periodic Clock Calculus. <i>Journal of Electronic Testing: Theory and Applications (JETTA)</i> , 2010, 26, 227-242.	0.9	1
126	Translating concurrent action oriented specifications to synchronous guarded actions. <i>ACM SIGPLAN Notices</i> , 2010, 45, 47-56.	0.2	1

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127	System level simulation guided approach to improve the efficacy of clock-gating. , 2010, , .		1
128	A Brief History of Multiprocessors and EDA. IEEE Design and Test of Computers, 2011, 28, 96-96.	1.4	1
129	Challenges of Rapidly Emerging Consumer Space Multiprocessors. IEEE Design and Test of Computers, 2011, 28, 52-53.	1.4	1
130	Guest Editors' Introduction: Special Section on Science of Design for Safety Critical Systems. IEEE Transactions on Computers, 2011, 60, 1057-1058.	2.4	1
131	Optimum location of master agents in an agent based zone 3 protection scheme designed for robustness against hidden failure induced trips. , 2012, , .		1
132	Simplification of C-RTL equivalent checking for fused multiply add unit using intermediate models. , 2013, , .		1
133	Guest Editors' Introduction: Special Section on System-Level Design and Validation of Heterogeneous Chip Multiprocessors. IEEE Transactions on Computers, 2013, 62, 209-210.	2.4	1
134	Optimization of Latency Insensitive Systems Through Back Pressure Minimization. IEEE Transactions on Computers, 2015, 64, 464-476.	2.4	1
135	Design space exploration for deterministic ethernet-based architecture of automotive systems. , 2016, , .		1
136	Performance Evaluation of Timing Estimation Technique Using Extended Cyclic Prefix for Correlation Sequence for OFDM Systems. Wireless Personal Communications, 2017, 97, 3301-3327.	1.8	1
137	An automata theoretic framework for detecting schedulability attacks on cyber-physical systems. , 2018, , .		1
138	LFSR based versatile divider architectures for BCH and RS error correction encoders. Microprocessors and Microsystems, 2019, 71, 102902.	1.8	1
139	AN IMPROVED PREAMBLE AIDED TIMING ESTIMATION METHOD FOR OFDM SYSTEMS. ICTACT Journal on Communication Technology, 2015, 06, 1150-1154.	0.2	1
140	Truly Heterogeneous Modeling with Systemc. , 2004, , 83-101.		1
141	Parallelizing High-Level Synthesis. Industrial Information Technology Series, 2006, , 11-1-11-20.	0.2	1
142	Efficient Hardware-Software Codesigns of AES Encryptor and RS-BCH Encoder. Communications in Computer and Information Science, 2019, , 3-15.	0.4	1
143	Unification and matching in process algebras. Lecture Notes in Computer Science, 1998, , 91-105.	1.0	0
144	Effects of property ordering in an incremental formal modeling methodology. , 2004, , .		0

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145	A Trace Based Framework for Validation of SoC Designs with GALS Systems. , 2006, , .		0
146	Local Causal Reasoning of a Safety-Critical Subway System. , 2007, , .		0
147	Guest Editors' Introduction to the Special Section on Programming Architectures for Embedded Systems. IEEE Transactions on Computers, 2008, 57, 1297-1299.	2.4	0
148	Formal transformation of a KPN specification to a GALS implementation. , 2008, , .		0
149	Chapter 6 Probabilistic Analysis of Self-Assembled Molecular Networks. Studies in Multidisciplinarity, 2008, , 123-151.	0.0	0
150	C-Based Design of Heterogeneous Embedded Systems. Eurasip Journal on Embedded Systems, 2008, 2008, 243890.	1.2	0
151	Accurate power estimation of hardware co-processors using system level simulation. , 2009, , .		0
152	Modeling and Analyzing the Implementation of Latency-Insensitive Protocols Using the Polychrony Framework. Electronic Notes in Theoretical Computer Science, 2009, 245, 3-22.	0.9	0
153	Studies on Mechanical and Antithrombogenic Behaviors of Polyvinyl Alcohol and Gelatin Based Novel Binary Polymer Blends with Grafted Polyacrylamide Chains. Journal of Macromolecular Science - Pure and Applied Chemistry, 2010, 47, 697-707.	1.2	0
154	Guest Editors' Introduction: Multicore SoC Validation with Transaction-Level Models. IEEE Design and Test of Computers, 2011, 28, 6-9.	1.4	0
155	Evaluating the grid impact of plug-in electric vehicles using dynamic commuting profiles. , 2013, , .		0
156	Abstraction of polychronous dataflow specifications into mode-automata. , 2013, , .		0
157	APECS code synthesis: Extending ocarina for multi-threaded code synthesis from AADL models for Safety Critical applications. , 2014, , .		0
158	Verification of unit and dimensional consistencies in polychronous specifications. , 2014, , .		0
159	A framework for analyzing and optimizing renewable energy portfolios. , 2015, , .		0
160	Formal Hardware Verification of InfoSec Primitives. , 2019, , .		0
161	Model Checking Using Automata Theory. , 2000, , 55-79.		0
162	Structural Component Composition for System-Level Models. , 2004, , 57-81.		0

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163	Design Issues for Networked Embedded Systems. Industrial Information Technology Series, 2005, , 29-1-29-18.	0.2	0
164	Design Issues for Networked Embedded Systems. Industrial Information Technology Series, 2005, , .	0.2	0
165	On the Polychronous Approach to Embedded Software Design. , 2007, , 261-273.		0
166	A Formally Verified Peak-Power Reduction Technique for Hardware Synthesis from Concurrent Action-Oriented Specifications. Journal of Low Power Electronics, 2009, 5, 135-144.	0.6	0
167	Expressing the Behavior of Three Very Different Concurrent Systems by Using Natural Extensions of Separation Logic. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 8, 26-40.	0.8	0
168	Dynamic Power Optimizations. , 2010, , 83-101.		0
169	Verifying Peak Power Optimizations Using SPIN Model Checker. , 2010, , 115-139.		0
170	Low-Power Problem Formalization. , 2010, , 35-43.		0
171	Heuristics for Power Savings. , 2010, , 45-64.		0
172	Complexity Analysis of Scheduling in CAOS-Based Synthesis. , 2010, , 65-82.		0
173	Power Aware High Level Synthesis of Hardware Coprocessors. Journal of Low Power Electronics, 2010, 6, 376-389.	0.6	0
174	A FRAMEWORK FOR ANALYZING COMBINED LOAD-CARRYING-CAPACITY OF PLUG-IN ELECTRIC VEHICLES AND SOLAR GENERATORS. Alternative Energy, 2013, 2, .	0.0	0
175	Flexible Composite Galois Field $GF((2^m)^2)$ Multiplier Designs. Communications in Computer and Information Science, 2017, , 3-14.	0.4	0
176	Mining Metadata from SystemC IP Library. , 2007, , 111-129.		0