Roopak Sinha

List of Publications by Year
in descending order

75 papers	609 citations	840585 11 h-index	839398 18 g-index
77 all docs	77 docs citations	77 times ranked	412 citing authors

#	Article	IF	Citations
1	Melanoma Classification Using a Novel Deep Convolutional Neural Network with Dermoscopic Images. Sensors, 2022, 22, 1134.	2.1	58
2	A system on chip for melanoma detection using FPGA-based SVM classifier. Microprocessors and Microsystems, 2019, 65, 57-68.	1.8	38
3	Finding faults: A scoping study of fault diagnostics for Industrial Cyber–Physical Systems. Journal of Systems and Software, 2020, 168, 110638.	3.3	32
4	FPGA Implementations of SVM Classifiers: A Review. SN Computer Science, 2020, 1, 1.	2.3	30
5	A systematic review of route optimisation and pre-emption methods for emergency vehicles. Transport Reviews, 2020, 40, 35-53.	4.7	27
6	A Survey of Static Formal Methods for Building Dependable Industrial Automation Systems. IEEE Transactions on Industrial Informatics, 2019, 15, 3772-3783.	7.2	26
7	SVM classifier on chip for melanoma detection. , 2017, 2017, 270-274.		23
8	Unified Functional Safety Assessment of Industrial Automation Systems. IEEE Transactions on Industrial Informatics, 2017, 13, 17-26.	7.2	22
9	A low-cost FPGA-based SVM classifier for melanoma detection. , 2016, , .		17
10	Hierarchical and Concurrent ECCs for IEC 61499 Function Blocks. IEEE Transactions on Industrial Informatics, 2016, 12, 59-68.	7.2	16
11	Assessing the Integration of Software Agents and Industrial Automation Systems with ISO/IEC 25010. , 2018, , .		16
12	Dynamic hardware system for cascade SVM classification of melanoma. Neural Computing and Applications, 2020, 32, 1777-1788.	3.2	16
13	Efficient WCRT analysis of synchronous programs using reachability. , 2011, , .		15
14	The Applicability of ISO/IEC 25023 Measures to the Integration of Agents and Automation Systems. , 2018, , .		15
15	Observer based verification of IEC 61499 function blocks. , 2011, , .		14
16	TORUS. ACM Transactions on Cyber-Physical Systems, 2019, 3, 1-25.	1.9	12
17	Virtual Traffic Lights+. Transportation Research Record, 2013, 2381, 73-80.	1.0	11
18	Automatic test case generation from requirements for industrial cyber-physical systems. Automatisierungstechnik, 2016, 64, 216-230.	0.4	11

#	Article	IF	Citations
19	Hardware Acceleration of SVM-Based Classifier for Melanoma Images. Lecture Notes in Computer Science, 2016, , 235-245.	1.0	11
20	A scalable approach for re-configuring evolving industrial control systems. , 2014, , .		10
21	Requirements-Aided Automatic Test Case Generation for Industrial Cyber-physical Systems. , 2015, , .		10
22	A Model Checking Approach to Protocol Conversion. Electronic Notes in Theoretical Computer Science, 2008, 203, 81-94.	0.9	9
23	A Smartphone-Assisted Post-Disaster Victim Localization Method. , 2016, , .		9
24	Multi-clock Soc design using protocol conversion. , 2009, , .		8
25	A smartphone-based post-disaster management mechanism using WiFi tethering. , 2015, , .		8
26	A Schema-First Formalism for Labeled Property Graph Databases. , 2019, , .		8
27	Precise timing analysis for direct-mapped caches. , 2013, , .		7
28	Competitors or Cousins? Studying the parallels between distributed programming languages SystemJ and IEC61499. , 2014, , .		7
29	Secure Links: Secure-by-Design Communications in IEC 61499 Industrial Control Applications. IEEE Transactions on Industrial Informatics, 2021, 17, 3992-4002.	7.2	7
30	Gain-Some-Lose-Some: Reliable Quantification Under General Dataset Shift. , 2021, , .		7
31	Requirements engineering of industrial automation systems: Adapting the CESAR requirements meta model for safety-critical smart grid software. , 2015, , .		6
32	IASelect: Finding Best-fit Agent Practices in Industrial CPS Using Graph Databases. , 2019, , .		6
33	A systematic mapping of semi-formal and formal methods in requirements engineering of industrial Cyber-Physical systems. Journal of Intelligent Manufacturing, 2022, 33, 1603-1638.	4.4	6
34	Synthetic Images Generation Using Conditional Generative Adversarial Network for Skin Cancer Classification. , 2021, , .		6
35	Deep Learning in Medical Applications: Lesion Segmentation in Skin Cancer Images Using Modified and Improved Encoder-Decoder Architecture. Communications in Computer and Information Science, 2021, , 39-52.	0.4	5
36	Skin lesion segmentation using an improved framework of <scp>encoder–decoder</scp> based convolutional neural network. International Journal of Imaging Systems and Technology, 2022, 32, 1143-1158.	2.7	5

#	ARTICLE	IF	CITATIONS
37	Local Module Checking for CTL Specifications. Electronic Notes in Theoretical Computer Science, 2007, 176, 125-141.	0.9	4
38	SoC Design Approach Using Convertibility Verification. Eurasip Journal on Embedded Systems, 2008, 2008, 296206.	1.2	4
39	Specification Enforcing Refinement for Convertibility Verification. , 2009, , .		4
40	A Multi-agent Framework for Dependable Adaptation of Evolving System Architectures. , 2015, , .		4
41	TORUS: Tracing Complex Requirements for Large Cyber-Physical Systems. , 2016, , .		4
42	Parametric statecharts: designing flexible IoT apps. , 2017, , .		4
43	On Design-time Security in IEC 61499 Systems: Conceptualisation, Implementation, and Feasibility. , 2018, , .		4
44	Routing Autonomous Emergency Vehicles in Smart Cities Using Real Time Systems Analogy: A Conceptual Model. , 2019, , .		4
45	Practical and comprehensive formalisms for modelling contemporary graph query languages. Information Systems, 2021, 102, 101816.	2.4	4
46	A Module Checking Based Converter Synthesis Approach for SoCs. , 2008, , .		3
47	Examining convolutional feature extraction using Maximum Entropy (ME) and Signal-to-Noise Ratio (SNR) for image classification. , 2020, , .		3
48	Architecting an Agent-Based Fault Diagnosis Engine for IEC 61499 Industrial Cyber-Physical Systems. Future Internet, 2021, 13, 190.	2.4	3
49	Correct-by-construction multi-component SoC design. , 2012, , .		2
50	Conversing at Many Layers: Multi-layer System-on-Chip Protocol Conversion. , 2015, , .		2
51	More Than Old Wine in New Bottles: A Secure Live Virtual Machine Job Migration Framework for Cloud Systems Integrity. , 2018, , .		2
52	Designing Actively Secure, Highly Available Industrial Automation Applications. , 2019, , .		2
53	Diagnosable-by-Design Model-Driven Development for IEC 61499 Industrial Cyber-Physical Systems. , 2020, , .		2
54	ROP Defense Using Trie Graph for System Security. International Journal of Digital Crime and Forensics, 2021, 13, 1-12.	0.5	2

#	ARTICLE	IF	CITATIONS
55	Requirements Engineering. , 2013, , 69-143.		2
56	Routing Emergency Vehicles in Arterial Road Networks using Real-time Mixed Criticality Systems. , 2020, , .		2
57	A Novel Medical Device for Early Detection of Melanoma. Studies in Health Technology and Informatics, 2019, 261, 122-127.	0.2	2
58	FLASc: a formal algebra for labeled property graph schema. Automated Software Engineering, 2022, 29, 1.	2.2	2
59	Adaptive Verification using Forced Simulation. Electronic Notes in Theoretical Computer Science, 2005, 141, 171-197.	0.9	1
60	A Formal Approach to Incremental Converter Synthesis for System-on-Chip Design. ACM Transactions on Design Automation of Electronic Systems, 2014, 20, 1-30.	1.9	1
61	A software architecture for energy consumption optimization in location-based mobile applications. , 2017, , .		1
62	DynaCool: Efficient cooling of next-generation large-scale data centers. , 2017, , .		1
63	Dynamic Prioritization of Emergency Vehicles For Self-Organizing Traffic using VTL+EV. , 2020, , .		1
64	Related Work and Outlook. , 2014, , 107-119.		1
65	Architectural Challenges in Migrating Plan-driven Projects to Agile. , 2015, , .		1
66	Assessing Support for Industry Standards in Reference Medical Software Architectures. , 2020, , .		1
67	Employing Agent Beliefs during Fault Diagnosis for IEC 61499 Industrial Cyber-Physical Systems. , 2020, , .		1
68	Tracing security requirements in industrial control systems using graph databases. Software and Systems Modeling, 2023, 22, 851-870.	2.2	1
69	Environment Modelling for Tighter Timing Analysis of Synchronous Programs. , 2011, , .		0
70	Slicing the Pi: Device-specific IEC 61499 design. , 2015, , .		0
71	Graph-Theoretic Models of Resource Distribution for Cyber-Physical Systems of Disaster-Affected Regions. , 2020, , .		0
72	SoC Design Methodology. , 2014, , 73-85.		0

#	Article	IF	Citations
73	Automatic Protocol Conversion. , 2014, , 87-106.		0
74	Automatic Verification Using Model and Module Checking. , 2014, , 25-54.		0
75	Examining and Mitigating Kernel Saturation in Convolutional Neural Networks using Negative Images. , 2020, , .		0