

Gabor Karsai

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

169
papers

3,426
citations

27
h-index

54
g-index

205
ext. papers

4,238
ext. citations

2.2
avg, IF

5.02
L-index

#	Paper	IF	Citations
169	A System-Level Modeling Approach for Simulating Radiation Effects in Successive-Approximation Analog-to-Digital Converters. <i>IEEE Transactions on Nuclear Science</i> , 2021 , 68, 1465-1472	1.7	1
168	Fault-Adaptive Autonomy in Systems with Learning-Enabled Components. <i>Sensors</i> , 2021 , 21,	3.8	2
167	Dynamic-weighted simplex strategy for learning enabled cyber physical systems. <i>Journal of Systems Architecture</i> , 2020 , 111, 101760	5.5	5
166	URMILA: Dynamically trading-off fog and edge resources for performance and mobility-aware IoT services. <i>Journal of Systems Architecture</i> , 2020 , 107, 101710	5.5	14
165	. <i>IEEE Transactions on Industrial Electronics</i> , 2020 , 67, 9393-9404	8.9	14
164	Development of a Flight-Program-Ready Radiation Model-Based Assurance Platform 2020 ,		1
163	A game-theoretic approach for power systems defense against dynamic cyber-attacks. <i>International Journal of Electrical Power and Energy Systems</i> , 2020 , 115, 105432	5.1	13
162	Designing a decentralized fault-tolerant software framework for smart grids and its applications. <i>Journal of Systems Architecture</i> , 2020 , 109, 101759	5.5	3
161	Practical Causal Models for Cyber-Physical Systems. <i>Lecture Notes in Computer Science</i> , 2019 , 211-227	0.9	6
160	Science of design for societal-scale cyber-physical systems: challenges and opportunities. <i>Cyber-Physical Systems</i> , 2019 , 5, 145-172	1.1	2
159	Device Access Abstractions for Resilient Information Architecture Platform for Smart Grid. <i>IEEE Embedded Systems Letters</i> , 2019 , 11, 34-37	1	5
158	Transportation Networks 2019 , 425-446		0
157	BARISTA: Efficient and Scalable Serverless Serving System for Deep Learning Prediction Services 2019 ,		16
156	Enabling Strong Isolation for Distributed Real-Time Applications in Edge Computing Scenarios. <i>IEEE Aerospace and Electronic Systems Magazine</i> , 2019 , 34, 32-45	2.4	3
155	2019 ,		1
154	Simulation of Transistor-Level Radiation Effects on System-Level Performance Parameters. <i>IEEE Transactions on Nuclear Science</i> , 2019 , 66, 1634-1641	1.7	3
153	Augmenting Learning Components for Safety in Resource Constrained Autonomous Robots 2019 ,		2

152	Dynamic symbolic execution for the analysis of web server applications in Java 2019 ,		1
151	Model-based design for CPS with learning-enabled components 2019 ,		7
150	CPS Design with Learning-Enabled Components 2019 ,		3
149	Towards Operational Use of Unit Manufacturing Process Models 2019 ,		1
148	DeepECO: Applying Deep Learning for Occupancy Detection from Energy Consumption Data 2019 ,		2
147	Model-based System Health Management and Contingency Planning for Autonomous UAS 2019 ,		1
146	Diagnosis in Cyber-Physical Systems with Fault Protection Assemblies 2018 , 201-225		0
145	. <i>Proceedings of the IEEE</i> , 2018 , 106, 93-112	14.3	38
144	A Cloud-Based Execution Framework for Program Analysis. <i>Lecture Notes in Computer Science</i> , 2018 , 139-154	0.9	
143	Vulnerability analysis of power systems based on cyber-attack and defense models 2018 ,		5
142	From Modeling to Model-Based Programming. <i>Lecture Notes in Computer Science</i> , 2018 , 295-308	0.9	2
141	A Hardware-in-the-Loop Real-Time Testbed for Microgrid Hierarchical Control 2018 ,		5
140	TRANSAX: A Blockchain-Based Decentralized Forward-Trading Energy Exchanged for Transactive Microgrids 2018 ,		15
139	An analytical framework for smart manufacturing. <i>MATEC Web of Conferences</i> , 2018 , 249, 03010	0.3	0
138	Development of a Controller Hardware-in-the-Loop Platform for Microgrid Distributed Control Applications 2018 ,		12
137	Distributed Microgrid Synchronization Strategy Using a Novel Information Architecture Platform 2018 ,		4
136	Triggering Rowhammer Hardware Faults on ARM 2018 ,		4
135	Integrated simulation testbed for security and resilience of CPS 2018 ,		5

134	An Adaptive Interleaving Algorithm for Multi-Converter Systems 2018 ,		6
133	Resilient Information Architecture Platform for Smart Systems (RIAPS): Case Study for Distributed Apparent Power Control 2018 ,		3
132	Resilience at the edge in cyber-physical systems 2017 ,		6
131	Radiation Response and Adaptive Control-Based Degradation Mitigation of MEMS Accelerometers in Ionizing Dose Environments. <i>IEEE Sensors Journal</i> , 2017 , 17, 1132-1143	4	4
130	A modeling framework to integrate exogenous tools for identifying critical components in power systems 2017 ,		2
129	Towards an architecture for evaluating and analyzing decentralized Fog applications 2017 ,		3
128	Time synchronization services for low-cost fog computing applications 2017 ,		11
127	A dependable, prognostics-incorporated, N-S modular battery reconfiguration scheme with an application to electric aircraft 2017 ,		1
126	Implementation of a distributed microgrid controller on the Resilient Information Architecture Platform for Smart Systems (RIAPS) 2017 ,		9
125	Bayesian Modeling of COTS Power MOSFET Ionizing Dose Impact on Circuit Response 2017 ,		2
124	Diagnostics and prognostics using temporal causal models for cyber physical energy systems 2017 ,		2
123	Transactive energy demo with RIAPS platform 2017 ,		8
122	RIAPS: Resilient Information Architecture Platform for Decentralized Smart Systems 2017 ,		29
121	DREMS-OS: An Operating System for Managed Distributed Real-Time Embedded Systems 2017 ,		2
120	Heuristics-based approach for identifying critical N-1 contingencies in power systems 2017 ,		2
119	A simulation testbed for cascade analysis 2017 ,		3
118	Achieving resilience in distributed software systems via self-reconfiguration. <i>Journal of Systems and Software</i> , 2016 , 122, 344-363	3-3	16
117	Demo Abstract: SURE: An Experimentation and Evaluation Testbed for CPS Security and Resilience 2016 ,		2

116	Abstractions for Modeling Complex Systems. <i>Lecture Notes in Computer Science</i> , 2016 , 68-79	0.9	5
115	ROSMOD: A Toolsuite for Modeling, Generating, Deploying, and Managing Distributed Real-time Component-based Software using ROS. <i>Electronics (Switzerland)</i> , 2016 , 5, 53	2.6	3
114	Demo Abstract: RIAPS [A Resilient Information Architecture Platform for Edge Computing 2016 ,		5
113	System Health Awareness in Total-Ionizing Dose Environments. <i>IEEE Transactions on Nuclear Science</i> , 2015 , 62, 1674-1681	1.7	2
112	DREMS ML: A wide spectrum architecture design language for distributed computing platforms. <i>Science of Computer Programming</i> , 2015 , 106, 3-29	1.1	6
111	Integrated Analysis of Temporal Behavior of Component-Based Distributed Real-Time Embedded Systems 2015 ,		4
110	Using temporal causal models to isolate failures in power system protection devices. <i>IEEE Instrumentation and Measurement Magazine</i> , 2015 , 18, 28-39	1.4	9
109	ROSMOD: a toolsuite for modeling, generating, deploying, and managing distributed real-time component-based software using ROS 2015 ,		5
108	Bayesian Inference Modeling of Total Ionizing Dose Effects on System Performance. <i>IEEE Transactions on Nuclear Science</i> , 2015 , 62, 2517-2524	1.7	5
107	A testbed to simulate and analyze resilient cyber-physical systems 2015 ,		7
106	2015 ,		1
105	Domain Globalization: Using Languages to Support Technical and Social Coordination. <i>Lecture Notes in Computer Science</i> , 2015 , 70-87	0.9	4
104	A co-simulation framework for design of time-triggered automotive cyber physical systems. <i>Simulation Modelling Practice and Theory</i> , 2014 , 43, 16-33	3.9	28
103	Distributed Real-Time Managed Systems: A Model-Driven Distributed Secure Information Architecture Platform for Managed Embedded Systems. <i>IEEE Software</i> , 2014 , 31, 62-69	1.5	16
102	A Rapid Testing Framework for a Mobile Cloud 2014 ,		7
101	Establishing Secure Interactions across Distributed Applications in Satellite Clusters 2014 ,		3
100	Range-Finding Sensor Degradation in Gamma Radiation Environments. <i>IEEE Sensors Journal</i> , 2014 , 1-1	4	9
99	A resilient and secure software platform and architecture for distributed spacecraft 2014 ,		1

98	Using temporal causal models to isolate failures in Power System protection devices 2014 ,		1
97	Distributed and Managed: Research Challenges and Opportunities of the Next Generation Cyber-Physical Systems 2014 ,		9
96	Total-Ionizing-Dose Induced Timing Window Violations in CMOS Microcontrollers. <i>IEEE Transactions on Nuclear Science</i> , 2014 , 61, 2979-2984	1.7	2
95	Analysis, verification, and management toolsuite for cyber-physical applications on time-varying networks 2014 ,		2
94	Model-Based Integration Platform for FMI Co-Simulation and Heterogeneous Simulations of Cyber-Physical Systems 2014 ,		31
93	Software Engineering for Self-Adaptive Systems: A Second Research Roadmap. <i>Lecture Notes in Computer Science</i> , 2013 , 1-32	0.9	191
92	Deliberative, search-based mitigation strategies for model-based software health management. <i>Innovations in Systems and Software Engineering</i> , 2013 , 9, 293-318	1.1	5
91	Model-Based Control Design and Integration of Cyberphysical Systems: An Adaptive Cruise Control Case Study. <i>Journal of Control Science and Engineering</i> , 2013 , 2013, 1-15	1.2	17
90	A case study on the model-based design and integration of automotive cyber-physical systems 2013 ,		1
89	A semi-formal description of migrating domain-specific models with evolving domains. <i>Software and Systems Modeling</i> , 2013 , 13, 807	1.9	1
88	Co-simulation framework for design of time-triggered cyber physical systems 2013 ,		13
87	Real-time fault tolerant deployment and configuration framework for cyber physical systems. <i>ACM SIGBED Review</i> , 2013 , 10, 32-32	1.3	6
86	Towards a resilient deployment and configuration infrastructure for fractionated spacecraft. <i>ACM SIGBED Review</i> , 2013 , 10, 29-32	1.3	3
85	Towards Practical Runtime Verification and Validation of Self-Adaptive Software Systems. <i>Lecture Notes in Computer Science</i> , 2013 , 108-132	0.9	29
84	F6COM: A component model for resource-constrained and dynamic space-based computing environments 2013 ,		18
83	Fault-Adaptivity in Hard Real-Time Component-Based Software Systems. <i>Lecture Notes in Computer Science</i> , 2013 , 294-323	0.9	2
82	Polyglot: Systematic Analysis for Multiple Statechart Formalisms. <i>Lecture Notes in Computer Science</i> , 2013 , 523-529	0.9	8
81	Toward a Science of CyberPhysical System Integration. <i>Proceedings of the IEEE</i> , 2012 , 100, 29-44	14.3	203

80	2012,		18
79	Rapid synthesis of high-level architecture-based heterogeneous simulation: a model-based integration approach. <i>Simulation</i> , 2012 , 88, 217-232	1.2	44
78	Architecting Health Management into Software Component Assemblies: Lessons Learned from the ARINC-653 Component Mode 2012,		1
77	Integrating Statechart Components in Polyglot. <i>Lecture Notes in Computer Science</i> , 2012 , 267-272	0.9	2
76	Model-based software health management for real-time systems 2011,		18
75	A component model for hard real-time systems: CCM with ARINC-653. <i>Software - Practice and Experience</i> , 2011 , 41, 1517-1550	2.5	32
74	A Meta-Framework for Design Space Exploration 2011,		4
73	Polyglot 2011,		23
72	Application of software health management techniques 2011,		20
71	Managing the quality of software product line architectures through reusable model transformations 2011,		6
70	Rapid property specification and checking for model-based formalisms 2011,		5
69	Challenges and directions in formalizing the semantics of modeling languages. <i>Computer Science and Information Systems</i> , 2011 , 8, 225-253	0.8	55
68	SOAMANET: A Tool for Evaluating Service-Oriented Architectures on Mobile Ad-Hoc Networks 2010,		4
67	Towards a Generic Design Space Exploration Framework 2010,		10
66	Enabling Self-Management by Using Model-Based Design Space Exploration 2010,		5
65	Online stability validation using sector analysis 2010,		1
64	Distributed diagnosis of complex systems using timed failure propagation graph models 2010,		8
63	Discrete-time IDA-passivity based control of coupled tank processes subject to actuator saturation 2010,		2

62	A Novel Approach to Semi-automated Evolution of DSML Model Transformation. <i>Lecture Notes in Computer Science</i> , 2010 , 23-41	0.9	23
61	A Real-Time Component Framework: Experience with CCM and ARINC-653 2010 ,		9
60	Evolving Embedded Systems. <i>Computer</i> , 2010 , 43, 34-40	1.6	33
59	Recent Advances in Multi-paradigm Modeling. <i>Lecture Notes in Computer Science</i> , 2010 , 220-224	0.9	2
58	MDE-Based Approach for Generalizing Design Space Exploration. <i>Lecture Notes in Computer Science</i> , 2010 , 46-60	0.9	19
57	20 The Model-Integrated Computing Tool Suite. <i>Lecture Notes in Computer Science</i> , 2010 , 369-376	0.9	2
56	3 Metamodelling. <i>Lecture Notes in Computer Science</i> , 2010 , 57-76	0.9	22
55	Lessons Learned from Building a Graph Transformation System. <i>Lecture Notes in Computer Science</i> , 2010 , 202-223	0.9	1
54	A transformation instance-based approach to traceability 2010 ,		5
53	Reusing Model Transformations While Preserving Properties. <i>Lecture Notes in Computer Science</i> , 2010 , 44-58	0.9	3
52	Model-based adaptation of flight-critical systems 2009 ,		2
51	Practical Implementation of Diagnosis Systems Using Timed Failure Propagation Graph Models. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2009 , 58, 240-247	5.2	40
50	A passivity-based framework for resilient cyber physical systems 2009 ,		10
49	An Experimental Model-Based Rapid Prototyping Environment for High-Confidence Embedded Software 2009 ,		5
48	2009 ,		9
47	Software Engineering for Self-Adaptive Systems: A Research Roadmap. <i>Lecture Notes in Computer Science</i> , 2009 , 1-26	0.9	45 ¹
46	Towards a time-triggered schedule calculation tool to support model-based embedded software design 2009 ,		7
45	Towards Model-Based Integration of Tools and Techniques for Embedded Control System Design, Verification, and Implementation. <i>Lecture Notes in Computer Science</i> , 2009 , 20-34	0.9	7

44	Automatic Domain Model Migration to Manage Metamodel Evolution. <i>Lecture Notes in Computer Science</i> , 2009 , 706-711	0.9	29
43	Evaluating the Correctness and Effectiveness of a Middleware QoS Configuration Process in Distributed Real-Time and Embedded Systems 2008 ,		2
42	Towards A Model-Based Autonomic Reliability Framework for Computing Clusters 2008 ,		1
41	A testbed for secure and robust SCADA systems. <i>ACM SIGBED Review</i> , 2008 , 5, 1-4	1.3	52
40	DSLs 2008 ,		5
39	Specifying the correctness properties of model transformations 2008 ,		4
38	Model-Integrated Development of Cyber-Physical Systems. <i>Lecture Notes in Computer Science</i> , 2008 , 46-54	0.9	34
37	Model-driven architecture for embedded software: A synopsis and an example. <i>Science of Computer Programming</i> , 2008 , 73, 26-38	1.1	23
36	Towards Verifying Model Transformations. <i>Electronic Notes in Theoretical Computer Science</i> , 2008 , 211, 191-200	0.7	33
35	Applying a Grouping Operator in Model Transformations. <i>Lecture Notes in Computer Science</i> , 2008 , 410-425	1.1	1
34	On the Correctness of Model Transformations in the Development of Embedded Systems. <i>Lecture Notes in Computer Science</i> , 2008 , 1-18	0.9	6
33	Integrating Security Modeling into Embedded System Design 2007 ,		13
32	Towards a verifiable real-time, autonomic, fault mitigation framework for large scale real-time systems. <i>Innovations in Systems and Software Engineering</i> , 2007 , 3, 33-52	1.1	8
31	Embedded systems security co-design. <i>ACM SIGBED Review</i> , 2007 , 4, 1-4	1.3	3
30	. <i>IEEE Autotestcon Proceedings</i> , 2006 ,		3
29	2006 ,		2
28	Improving the Usability of a Graph Transformation Language. <i>Electronic Notes in Theoretical Computer Science</i> , 2006 , 152, 207-222	0.7	1
27	The design of a language for model transformations. <i>Software and Systems Modeling</i> , 2006 , 5, 261-288	1.9	56

26	Towards Verification of Model Transformations Via Goal-Directed Certification. <i>Lecture Notes in Computer Science</i> , 2006 , 67-83	0.9	3
25	Automotive Software: A Challenge and Opportunity for Model-Based Software Development. <i>Lecture Notes in Computer Science</i> , 2006 , 103-115	0.9	1
24	Reusable Idioms and Patterns in Graph Transformation Languages. <i>Electronic Notes in Theoretical Computer Science</i> , 2005 , 127, 181-192	0.7	17
23	Design patterns for open tool integration. <i>Software and Systems Modeling</i> , 2005 , 4, 157-170	1.9	34
22	Towards Fault-Adaptive Control of Complex Dynamical Systems 2004 , 347-368		6
21	A domain-specific visual language for domain model evolution. <i>Journal of Visual Languages and Computing</i> , 2004 , 15, 291-307		71
20	Composition and cloning in modeling and meta-modeling. <i>IEEE Transactions on Control Systems Technology</i> , 2004 , 12, 263-278	4.8	43
19	An end-to-end domain-driven software development framework 2003 ,		28
18	Constraint-Based Design-Space Exploration and Model Synthesis. <i>Lecture Notes in Computer Science</i> , 2003 , 290-305	0.9	40
17	. <i>Proceedings of the IEEE</i> , 2003 , 91, 145-164	14.3	212
16	Composing domain-specific design environments. <i>Computer</i> , 2001 , 34, 44-51	1.6	431
15	Model-integrated computing. <i>Computer</i> , 1997 , 30, 110-111	1.6	217
14	A Practical Method for Creating Plant Diagnostics Applications. <i>Integrated Computer-Aided Engineering</i> , 1996 , 3, 291-304	5.2	6
13	. <i>IEEE Software</i> , 1993 , 10, 42-52	1.5	20
12	. <i>IEEE Transactions on Signal Processing</i> , 1993 , 41, 2695-2716	4.8	17
11	Model-based intelligent process control for cogenerator plants. <i>Journal of Parallel and Distributed Computing</i> , 1992 , 15, 90-102	4.4	13
10	. <i>IEEE Intelligent Systems</i> , 1991 , 6, 75-85		40
9	Graph model-based approach to the representation, interpretation, and execution of signal processing systems. <i>International Journal of Intelligent Systems</i> , 1988 , 3, 269-280	8.4	10

8	Model-integrated development of complex applications	2
7	A model-integrated information system for increasing throughput in discrete manufacturing	4
6	Model-integrated system development: models, architecture, and process	1
5	Component-oriented modeling of hybrid dynamic systems using the generic modeling environment	12
4	Model-based software tools for integrated vehicle health management	3
3	Model-based fault-adaptive control of complex dynamic systems	4
2	Automatic verification of component-based real-time CORBA applications	11
1	MULTIGRAPH: an architecture for model-integrated computing	6