

# Martin E Tärrngren

## List of Publications by Year in descending order

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Version: 2024-02-01

122  
papers

2,388  
citations

516561

16  
h-index

289141

40  
g-index

129  
all docs

129  
docs citations

129  
times ranked

1997  
citing authors

#	ARTICLE	IF	CITATIONS
1	Current status and advancement of cyber-physical systems in manufacturing. Journal of Manufacturing Systems, 2015, 37, 517-527.	7.6	704
2	Vehicle Applications of Controller Area Network. , 2005, , 741-765.		117
3	Fundamentals of Implementing Real-Time Control Applications in Distributed Computer Systems. Real-Time Systems, 1998, 14, 219-250.	1.1	95
4	Cyber-physical system design contracts. , 2013, , .		82
5	Integrating viewpoints in the development of mechatronic products. Mechatronics, 2014, 24, 745-762.	2.0	77
6	A functional reference architecture for autonomous driving. Information and Software Technology, 2016, 73, 136-150.	3.0	76
7	A Functional Architecture for Autonomous Driving. , 2015, , .		73
8	Digitalizing Swedish industry: What is next?. Computers in Industry, 2019, 105, 153-163.	5.7	62
9	Viewpoints, formalisms, languages, and tools for cyber-physical systems. , 2012, , .		53
10	How to Deal with the Complexity of Future Cyber-Physical Systems?. Designs, 2018, 2, 40.	1.3	53
11	MODIFI: A MODEL-IMPLEMENTED FAULT INJECTION TOOL. Lecture Notes in Computer Science, 2010, , 210-222.	1.0	51
12	What is embedded systems and how should it be taught?—results from a didactic analysis. Transactions on Embedded Computing Systems, 2005, 4, 633-651.	2.1	45
13	The science and education of mechatronics engineering. IEEE Robotics and Automation Magazine, 2001, 8, 20-26.	2.2	39
14	Complexity Challenges in Development of Cyber-Physical Systems. Lecture Notes in Computer Science, 2018, , 478-503.	1.0	38
15	A characterization of integrated multi-view modeling in the context of embedded and cyber-physical systems. , 2013, , .		36
16	11 The EAST-ADL Architecture Description Language for Automotive Embedded Software. Lecture Notes in Computer Science, 2010, , 297-307.	1.0	34
17	A reference architecture for cooperative driving. Journal of Systems Architecture, 2013, 59, 1095-1112.	2.5	32
18	Modelling Support for Design of Safety-Critical Automotive Embedded Systems. Lecture Notes in Computer Science, 2008, , 72-85.	1.0	31

#	ARTICLE	IF	CITATIONS
19	Integrating safety analysis into the model-based development toolchain of automotive embedded systems. , 2010, , .		24
20	Managing Complexity of Automotive Electronics Using the EAST-ADL. , 2007, , .		22
21	Cyber-physical systems research and education in 2030: Scenarios and strategies. Journal of Industrial Information Integration, 2021, 21, 100192.	4.3	22
22	Strategies and considerations in shaping cyber-physical systems education. ACM SIGBED Review, 2017, 14, 53-60.	1.8	21
23	Model-Implemented Fault Injection for Hardware Fault Simulation. , 2010, , .		20
24	Safe Stop Trajectory Planning for Highly Automated Vehicles: An Optimal Control Problem Formulation. , 2018, , .		19
25	On the modeling and generation of service-oriented tool chains. Software and Systems Modeling, 2014, 13, 461-480.	2.2	18
26	A Data-Driven Method Towards Minimizing Collision Severity for Highly Automated Vehicles. IEEE Transactions on Intelligent Vehicles, 2021, 6, 723-735.	9.4	18
27	The AIDA toolset for design and implementation analysis of distributed real-time control systems. Microprocessors and Microsystems, 2004, 28, 163-182.	1.8	16
28	Semi-Automatic FMEA Supporting Complex Systems with Combinations and Sequences of Failures. SAE International Journal of Passenger Cars - Mechanical Systems, 0, 2, 791-802.	0.4	16
29	Structuring Safety Requirements in ISO 26262 Using Contract Theory. Lecture Notes in Computer Science, 2013, , 166-177.	1.0	16
30	A Service-Oriented Tool-Chain for Model-Based Systems Engineering of Aero-Engines. IEEE Access, 2018, 6, 50443-50458.	2.6	15
31	Experiences from large embedded systems development projects in education, involving industry and research. ACM SIGBED Review, 2007, 4, 55-63.	1.8	14
32	Adaptive Trajectory Planning and optimization at Limits of Handling. , 2019, , .		14
33	Security-Aware Development of Cyber-Physical Systems Illustrated with Automotive Case Study. , 2016, , .		14
34	Education and training challenges in the era of Cyber-Physical Systems. , 2015, , .		13
35	Ontological reasoning for consistency in the design of cyber-physical systems. , 2016, , .		12
36	Trends in preparing cyber-physical systems engineers. Cyber-Physical Systems, 2019, 5, 65-91.	1.6	12

#	ARTICLE	IF	CITATIONS
37	Edge Computing for Cyber-physical Systems: A Systematic Mapping Study Emphasizing Trustworthiness. ACM Transactions on Cyber-Physical Systems, 2022, 6, 1-28.	1.9	12
38	How should embedded systems be taught?. ACM SIGBED Review, 2005, 2, 34-39.	1.8	11
39	Integrating safety analysis into the model-based development toolchain of automotive embedded systems. ACM SIGPLAN Notices, 2010, 45, 125-132.	0.2	11
40	Towards integration of CPS and systems engineering in education. , 2016, , .		11
41	Architecting Safety Supervisors for High Levels of Automated Driving. , 2018, , .		11
42	Design Ontology in a Case Study for Cosimulation in a Model-Based Systems Engineering Tool-Chain. IEEE Systems Journal, 2020, 14, 1297-1308.	2.9	11
43	Model-Based Systems Engineering Tool-Chain for Automated Parameter Value Selection. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 2333-2347.	5.9	11
44	Tool Supporting the Co-design of Control Systems and Their Real-time Implementation: Current Status and Future Directions. , 2006, , .		11
45	Tool supporting the co-design of control systems and their real-time implementation: Current status and future directions. , 2006, , .		10
46	Verifying system behaviors in EAST-ADL2 with the SPIN model checker. , 2010, , .		10
47	From EAST-ADL to AUTOSAR Software Architecture: A Mapping Scheme. Lecture Notes in Computer Science, 2011, , 328-335.	1.0	10
48	An Investigation of Functionalities of Future Toolâ€œchain for Aerospace Industry. Incose International Symposium, 2017, 27, 1408-1422.	0.2	10
49	Model-Based Development of Automotive Embedded Systems. Industrial Information Technology Series, 2008, , 258-309.	0.2	10
50	The discourse on tool integration beyond technology, a literature survey. Journal of Systems and Software, 2015, 106, 117-131.	3.3	9
51	The Role of Competence Networks in the Era of Cyber-Physical Systems â€œ Promoting Knowledge Sharing and Knowledge Exchange. IEEE Design and Test, 2020, 37, 8-15.	1.1	9
52	Towards Improving Dependability of Automotive Systems by Using the EAST-ADL Architecture Description Language. Lecture Notes in Computer Science, 2007, , 39-65.	1.0	9
53	High-Level Specification and Code Generation for Service-Oriented Tool Adapters. , 2012, , .		7
54	Towards A Service-oriented Framework for MBSE Tool-chain Development. , 2018, , .		7

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55	A literature review on obsolescence management in COTS-centric cyber physical systems. <i>Procedia Computer Science</i> , 2019, 153, 135-145.	1.2	7
56	Challenges in Architecting Fully Automated Driving; with an Emphasis on Heavy Commercial Vehicles. , 2016, , .		6
57	Architecture Challenges for Intelligent Autonomous Machines. <i>Advances in Intelligent Systems and Computing</i> , 2016, , 1669-1681.	0.5	6
58	Pre-Crash Vehicle Control and Manoeuvre Planning: A Step Towards Minimizing Collision Severity for Highly Automated Vehicles. , 2019, , .		6
59	Empirical-Evolution of Frameworks Supporting Co-simulation Tool-Chain Development. <i>Advances in Intelligent Systems and Computing</i> , 2018, , 813-828.	0.5	6
60	Fusion of Heterogeneous Friction Estimates for Traction Adaptive Motion Planning and Control. , 2021, , .		6
61	Towards curricula for Cyber-Physical Systems. , 2014, , .		5
62	A Case Study on Achieving Fair Data Age Distribution in Vehicular Communications. , 2017, , .		5
63	Autonomic Middleware for Automotive Embedded Systems. , 2009, , 169-210.		5
64	Tuning Permissiveness of Active Safety Monitors for Autonomous Systems. <i>Lecture Notes in Computer Science</i> , 2018, , 333-348.	1.0	5
65	Traction Adaptive Motion Planning and Control at the Limits of Handling. <i>IEEE Transactions on Control Systems Technology</i> , 2022, 30, 1888-1904.	3.2	5
66	Shape Estimation of a 3D Printed Soft Sensor Using Multi-Hypothesis Extended Kalman Filter. <i>IEEE Robotics and Automation Letters</i> , 2022, 7, 8383-8390.	3.3	5
67	Introducing distributed control in mobile machines based on hydraulic actuators. <i>Mechatronics</i> , 1994, 4, 139-157.	2.0	4
68	A metrics system for quantifying operational coupling in embedded computer control systems. , 2004, , .		4
69	Tool Integration, from Tool to Tool Chain with ISO 26262. , 2012, , .		4
70	Experience on applying software architecture recovery to automotive embedded systems. , 2014, , .		4
71	Design-Space Reduction for Architectural Optimization of Automotive Embedded Systems. , 2015, , .		4
72	Architecture exploration for distributed embedded systems: a gap analysis in automotive domain. , 2017, , .		4

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73	ATRIUM – Architecting under uncertainty: For ISO 26262 compliance. , 2017, , .		4
74	Functional Safety and Evolvable Architectures for Autonomy. , 2017, , 547-560.		4
75	Towards a taxonomy of technical debt for COTS-intensive cyber physical systems. Procedia Computer Science, 2019, 153, 108-117.	1.2	4
76	Probabilistic Inference of Fault Condition of Cyber-Physical Systems Under Uncertainty. IEEE Systems Journal, 2020, 14, 3256-3266.	2.9	4
77	Real-time control of physically distributed systems. Computers and Electrical Engineering, 1992, 18, 51-72.	3.0	3
78	Self configuration of dependent tasks for dynamically reconfigurable automotive embedded systems. , 2008, , .		3
79	Supporting an Automotive Safety Case through Systematic Model Based Development - the EAST-ADL2 Approach. , 2008, , .		3
80	Analyzing semantic relationships between multiformalism models for inconsistency management. , 2015, , .		3
81	A Functional Brake Architecture for Autonomous Heavy Commercial Vehicles. , 2016, , .		3
82	Experiences and reflections on three years of CPS summer schools within EIT digital. , 2016, , .		3
83	A domain-specific modeling approach supporting tool-chain development with Bayesian network models. Integrated Computer-Aided Engineering, 2020, 27, 153-171.	2.5	3
84	Generic Fault Modelling for Fault Injection. Lecture Notes in Computer Science, 2011, , 287-296.	1.0	3
85	Connected things connecting Europe. Communications of the ACM, 2019, 62, 46-46.	3.3	3
86	AD-EYE: A Co-Simulation Platform for Early Verification of Functional Safety Concepts. , 0, , .		3
87	Lessons Learned from Model Based Development of a Distributed Embedded Automotive Control System. , 2004, , .		2
88	Efficient Construction of Presentation Integration for Web-Based and Desktop Development Tools. , 2013, , .		2
89	Educating Embedded Systems Hackers. , 2014, , .		2
90	Educating embedded systems hackers. ACM SIGBED Review, 2017, 14, 8-15.	1.8	2

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91	A Method towards the Systematic Architecting of Functionally Safe Automated Driving- Leveraging Diagnostic Specifications for FSC design. , 2017, , .		2
92	Experience from Introducing Systems Engineering in an Academic Environment Using an Industry Training Course. IncoSE International Symposium, 2018, 28, 245-259.	0.2	2
93	An Open Source Lifecycle Collaboration Approach Supporting Internet of Things System Development. , 2019, , .		2
94	A Permissioned Blockchain Based Feature Management System for Assembly Devices. IEEE Access, 2020, 8, 183378-183390.	2.6	2
95	A Tool Integration Language to Formalize Co-simulation Tool-Chains for Cyber-Physical System (CPS). Lecture Notes in Computer Science, 2018, , 391-405.	1.0	2
96	On Integrating EAST-ADL and UPPAAL for Embedded System Architecture Verification. Embedded Systems, 2014, , 85-99.	0.6	2
97	Security Awareness in the Internet of Everything. Advances in Computer and Electrical Engineering Book Series, 2019, , 272-301.	0.2	2
98	Defining Fundamental Vehicle Actions for the Development of Automated Driving Systems. , 0, , .		2
99	A Modeling Framework for Automotive Embedded Control Systems. , 2004, , .		1
100	THE EFFECT OF RANDOMLY TIME-VARYING SAMPLING AND COMPUTATIONAL DELAY. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 209-218.	0.4	1
101	7.1.1 Integrating Views in a Multi-view Modelling Environment. IncoSE International Symposium, 2005, 15, 974-988.	0.2	1
102	ODEEP - Open Dependable Electrical and Electronics Platform " Concept and Projects. , 2005, , .		1
103	An Executable Design Decision Representation Using Model Transformations. , 2010, , .		1
104	A Cost-Efficiency Model for Tool Chains. , 2012, , .		1
105	The Need for a Confidence View of CPS Support Environments (Fast Abstract). , 2015, , .		1
106	Formulating customized specifications for resource allocation problem of distributed embedded systems. , 2016, , .		1
107	Efficient State Update Exchange in a CPS Environment for Linked Data-based Digital Twins. , 2019, , .		1
108	17 Towards Model-Based Engineering of Self-configuring Embedded Systems. Lecture Notes in Computer Science, 2010, , 345-353.	1.0	1

#	ARTICLE	IF	CITATIONS
109	Uncertainty Management in Situation Awareness for Cyber-Physical Systems. , 2020, , .		1
110	Experiences from Model Supported Configuration Management and Production of Automotive Embedded Software. , 2007, , .		0
111	A Concept for Secure Production Programming of Embedded Industrial Field Devices. , 2011, , .		0
112	An Estimation Model for the Savings Achievable by Tool Chains. , 2012, , .		0
113	Requirements Engineering for Control and Computing Systems at large research facilities: Process implementation and a case study. IncoSE International Symposium, 2015, 25, 68-82.	0.2	0
114	Systems Engineering and Architecting for Intelligent Autonomous Systems. , 2017, , 313-351.		0
115	Design Optimization of Cyber-Physical Systems by Partitioning and Coordination: A Study on Mechatronic Systems. , 2018, , .		0
116	Component-Based Development. , 2013, , 179-212.		0
117	Architecture Exploration. , 2013, , 145-178.		0
118	3rd Workshop on Architecting Safety in Collaborative Mobile Systems (ASCoMS). Lecture Notes in Computer Science, 2014, , 1-2.	1.0	0
119	Architecture and Safety for Autonomous Heavy Vehicles: ARCHER. , 2017, , 571-581.		0
120	Security Awareness in the Internet of Everything. , 2022, , 1-30.		0
121	Competence Networks in the Era of CPS " Lessons Learnt in the ICES Cross-Disciplinary and Multi-domain Center. Lecture Notes in Computer Science, 2020, , 264-283.	1.0	0
122	Evaluating Sequential Reasoning about Hidden Objects in Traffic. , 2022, , .		0