Edward A Lee

List of Publications by Year in Descending Order

208 papers	11,011 citations	43 h-index	102 g-index
232 ext. papers	13,301 ext. citations	2.8 avg, IF	6.96 L-index

#	Paper	IF	Citations
208	What Can Deep Neural Networks Teach Us About Embodied Bounded Rationality.. *Frontiers in Psychology*, **2022**, 13, 761808	3.4	
207	Time for All Programs, Not Just Real-Time Programs. *Lecture Notes in Computer Science*, **2021**, 213-232	0.9	1
206	Toward a Lingua Franca for Deterministic Concurrent Systems. *Transactions on Embedded Computing Systems*, **2021**, 20, 1-27	1.8	7
205	Determinism. *Transactions on Embedded Computing Systems*, **2021**, 20, 1-34	1.8	1
204	Programmable Logic Controllers in the Context of Industry 4.0. *IEEE Transactions on Industrial Informatics*, **2021**, 17, 3523-3533	11.9	8
203	Semantic Localization for IoT. *Studies in Computational Intelligence*, **2021**, 365-383	0.8	
202	**2020**,		4
201	Gordian. *ACM Transactions on Cyber-Physical Systems*, **2020**, 4, 1-27	2.3	1
200	Opportunities for Industrial Control. *IFAC-PapersOnLine*, **2020**, 53, 7839-7844	0.7	
199	Reactors: A Deterministic Model for Composable Reactive Systems. *Lecture Notes in Computer Science*, **2020**, 59-85	0.9	10
198	Verification of Cyberphysical Systems. *Mathematics*, **2020**, 8, 1068	2.3	10
197	Model Checking Software in Cyberphysical Systems **2020**,		7
196	Actors Revisited for Time-Critical Systems **2019**,		10
195	Service Discovery for the Connected Car with Semantic Accessors **2019**,		2
194	An Integrated Simulation Tool for Computer Architecture and Cyber-Physical Systems. *Lecture Notes in Computer Science*, **2019**, 83-93	0.9	1
193	Observation and Interaction. *Lecture Notes in Computer Science*, **2019**, 31-42	0.9	1
192	. *IEEE Access*, **2019**, 7, 27244-27256	3.5	8

191	Hybrid co-simulation: it□s about time. *Software and Systems Modeling*, **2019**, 18, 1655-1679	1.9	25
190	Creating a Resilient IoT With Edge Computing. *Computer*, **2019**, 52, 43-53	1.6	4
189	Programs with ironclad timing guarantees **2019**,		3
188	Deterministic Actors **2019**,		12
187	A Component Architecture for the Internet of Things. *Proceedings of the IEEE*, **2018**, 106, 1527-1542	14.3	16
186	What Is Real Time Computing? A Personal View. *IEEE Design and Test*, **2018**, 35, 64-72	1.4	6
185	Is software the result of top-down intelligent design or evolution?. *Communications of the ACM*, **2018**, 61, 34-36	2.5	7
184	Hybrid Co-simulation **2018**,		6
183	Modeling in engineering and science. *Communications of the ACM*, **2018**, 62, 35-36	2.5	6
182	Deterministic Timing for the Industrial Internet of Things **2018**,		8
181	What Good are Models?. *Lecture Notes in Computer Science*, **2018**, 3-31	0.9	11
180	AWStream **2018**,		36
179	Models of Timed Systems. *Lecture Notes in Computer Science*, **2018**, 17-33	0.9	1
178	Coordinated actor model of self-adaptive track-based traffic control systems. *Journal of Systems and Software*, **2018**, 143, 116-139	3.3	13
177	Fundamental Limits of Cyber-Physical Systems Modeling. *ACM Transactions on Cyber-Physical Systems*, **2017**, 1, 1-26	2.3	33
176	. *IT Professional*, **2017**, 19, 27-33	1.9	69
175	A Toolkit for Construction of Authorization Service Infrastructure for the Internet of Things **2017**,		17
174	An Architectural Mechanism for Resilient IoT Services **2017**,		4

173	Abstract PRET Machines **2017**,		10
172	Design and Usability of a Heart Failure mHealth System: A Pilot Study. *JMIR Human Factors*, **2017**, 4, e9	2.5	24
171	Coordinated Actors for Reliable Self-adaptive Systems. *Lecture Notes in Computer Science*, **2017**, 241-259	0.9	5
170	autoCode4: Structural Controller Synthesis. *Lecture Notes in Computer Science*, **2017**, 398-404	0.9	7
169	Uncertainty Analysis of Middleware Services for Streaming Smart Grid Applications. *IEEE Transactions on Services Computing*, **2016**, 9, 174-185	4.8	10
168	Step revision in hybrid Co-simulation with FMI **2016**,		10
167	FIDE **2016**,		14
166	Information seeking and model predictive control of a cooperative multi-robot system. *Artificial Life and Robotics*, **2016**, 21, 393-398	0.6	2
165	Control Improvisation with Probabilistic Temporal Specifications **2016**,		4
164	Toward a Global Data Infrastructure. *IEEE Internet Computing*, **2016**, 20, 54-62	2.4	12
163	Systems Engineering for Industrial Cyber-Physical Systems Using Aspects. *Proceedings of the IEEE*, **2016**, 104, 997-1012	14.3	41
162	A Secure Network Architecture for the Internet of Things Based on Local Authorization Entities **2016**,		15
161	The fixed-point theory of strictly causal functions. *Theoretical Computer Science*, **2015**, 574, 39-77	1.1	6
160	A predictable and command-level priority-based DRAM controller for mixed-criticality systems **2015**,		12
159	The past, present and future of cyber-physical systems: a focus on models. *Sensors*, **2015**, 15, 4837-69	3.8	317
158	A Vision of Swarmlets. *IEEE Internet Computing*, **2015**, 19, 20-28	2.4	33
157	System simulation from operational data **2015**,		2
156	Requirements for hybrid cosimulation standards **2015**,		27

155	CyPhySim **2015**,		8
154	A model for semantic localization **2015**,		1
153	Ramifications of software implementation and deployment: A case study on yaw moment controller design **2015**,		1
152	Modeling and simulating cyber-physical systems using CyPhySim **2015**,		14
151	Modeling and Simulation of Network Aspects for Distributed Cyber-Physical Energy Systems. *Power Systems*, **2015**, 1-23	0.4	5
150	An Interface Theory for the Internet of Things. *Lecture Notes in Computer Science*, **2015**, 20-34	0.9	13
149	The Swarm at the Edge of the Cloud. *IEEE Design and Test*, **2014**, 31, 8-20	1.4	62
148	Metronomy **2014**,		16
147	Constructive Models of Discrete and Continuous Physical Phenomena. *IEEE Access*, **2014**, 2, 797-821	3.5	25
146	Aspect-oriented Modeling of Attacks in Automotive Cyber-Physical Systems **2014**,		38
145	FlexPRET: A processor platform for mixed-criticality systems **2014**,		50
144	MyHeart: An intelligent mHealth home monitoring system supporting heart failure self-care **2014**,		11
143	Industrial Cyber-Physical Systems CyPhy **2014**, 21-37		19
142	Constructive Collisions. *Lecture Notes in Computer Science*, **2014**, 161-176	0.9	
141	Determinate composition of FMUs for co-simulation **2013**,		59
140	Using Ptides and synchronized clocks to design distributed systems with deterministic system wide timing **2013**,		4
139	A tool integration approach for architectural exploration of aircraft electric power systems **2013**,		4
138	Compositionality in synchronous data flow. *Transactions on Embedded Computing Systems*, **2013**, 12, 1-26	1.8	33

137	A modular formal semantics for Ptolemy *Mathematical Structures in Computer Science*, **2013**, 23, 834-881	0.5	28
136	Cyber-physical system design contracts **2013**,		59
135	On Fixed Points of Strictly Causal Functions. *Lecture Notes in Computer Science*, **2013**, 183-197	0.9	6
134	On the Verification of Timed Discrete-Event Models. *Lecture Notes in Computer Science*, **2013**, 213-227	0.9	2
133	An Axiomatization of the Theory of Generalized Ultrametric Semilattices of Linear Signals. *Lecture Notes in Computer Science*, **2013**, 248-258	0.9	2
132	Error-Completion in Interface Theories. *Lecture Notes in Computer Science*, **2013**, 358-375	0.9	2
131	The Fixed-Point Theory of Strictly Causal Functions **2013**,		3
130	Modeling Cyber-Physical Systems. *Proceedings of the IEEE*, **2012**, 100, 13-28	14.3	403
129	Distributed Real-Time Software for Cyber-Physical Systems. *Proceedings of the IEEE*, **2012**, 100, 45-59	14.3	107
128	A Heterogeneous Architecture for Evaluating Real-Time One-Dimensional Computational Fluid Dynamics on FPGAs **2012**,		4
127	PtidyOS: A Lightweight Microkernel for Ptides Real-Time Systems **2012**,		4
126	A PRET microarchitecture implementation with repeatable timing and competitive performance **2012**,		47
125	Verifying hierarchical Ptolemy II discrete-event models using Real-Time Maude. *Science of Computer Programming*, **2012**, 77, 1235-1271	1.1	15
124	The Coroutine Model of Computation. *Lecture Notes in Computer Science*, **2012**, 319-334	0.9	1
123	Multi-view Modeling and Pragmatics in 2020. *Lecture Notes in Computer Science*, **2012**, 209-223	0.9	12
122	Viewpoints, formalisms, languages, and tools for cyber-physical systems **2012**,		42
121	From Transitions to Executions. *Lecture Notes in Computer Science*, **2012**, 170-190	0.9	1
120	Network latency and packet delay variation in cyber-physical systems **2011**,		4

119	A model-based design methodology for cyber-physical systems **2011**,		103
118	Temporal isolation on multiprocessing architectures **2011**,		39
117	PRET DRAM controller **2011**,		95
116	Heterogeneous actor modeling **2011**,		6
115	**2011**,		4
114	Component-based design for the future **2011**,		14
113	PTIDES model on a distributed testbed emulating smart grid real-time applications **2011**,		3
112	A Theory of Synchronous Relational Interfaces. *ACM Transactions on Programming Languages and Systems*, **2011**, 33, 1-41	1.6	43
111	A practical ontology framework for static model analysis **2011**,		4
110	Equation-Based Object-Oriented Modeling Languages and Tools. *Lecture Notes in Computer Science*, **2011**, 140-144	0.9	
109	A PRET architecture supporting concurrent programs with composable timing properties **2010**,		36
108	An introductory textbook on cyber-physical systems **2010**,		13
107	CPS foundations **2010**,		176
106	Model-based specification of timing requirements **2010**,		6
105	Ptera **2010**,		2
104	Deploying Hard Real-Time Control Software on Chip-Multiprocessors **2010**,		2
103	Exploring models of computation with ptolemy II **2010**,		13
102	Disciplined Heterogeneous Modeling. *Lecture Notes in Computer Science*, **2010**, 273-287	0.9	19

101	Code Generation for Embedded Java with Ptolemy. *Lecture Notes in Computer Science*, **2010**, 155-166	0.9	4
100	Classes and inheritance in actor-oriented design. *Transactions on Embedded Computing Systems*, **2009**, 8, 1-26	1.8	9
99	Heterogeneous composition of models of computation. *Future Generation Computer Systems*, **2009**, 25, 552-560	7.5	29
98	Time-critical networking - Invited presentation **2009**,		3
97	A disruptive computer design idea: Architectures with repeatable timing **2009**,		16
96	Introducing embedded systems: a cyber-physical approach **2009**,		8
95	Computing needs time. *Communications of the ACM*, **2009**, 52, 70-79	2.5	126
94	Execution Strategies for PTIDES, a Programming Model for Distributed Embedded Systems **2009**,		20
93	The Case for Timing-Centric Distributed Software Invited Paper **2009**,		5
92	PTIDES on flexible task graph. *ACM SIGPLAN Notices*, **2009**, 44, 31-40	0.2	3
91	On relational interfaces **2009**,		13
90	Finite State Machines and Modal Models in Ptolemy II **2009**,		11
89	Scalable Semantic Annotation Using Lattice-Based Ontologies. *Lecture Notes in Computer Science*, **2009**, 393-407	0.9	17
88	Compositionality in Synchronous Data Flow: Modular Code Generation from Hierarchical SDF Graphs **2009**,		4
87	Advances in hardware design and implementation of signal processing systems [DSP Forum]. *IEEE Signal Processing Magazine*, **2008**, 25, 175-180	9.4	3
86	Cyber Physical Systems: Design Challenges **2008**,		1612
85	Real-Time Distributed Discrete-Event Execution with Fault Tolerance **2008**,		10
84	Causality interfaces for actor networks. *Transactions on Embedded Computing Systems*, **2008**, 7, 1-35	1.8	16

83	Predictable programming on a precision timed architecture **2008**,		74
82	Branch-on-random **2008**,		4
81	Simulation and Implementation of the PTIDES Programming Model **2008**,		8
80	CPO semantics of timed interactive actor networks. *Theoretical Computer Science*, **2008**, 409, 110-125	1.1	20
79	On Determinism in Event-Triggered Distributed Systems with Time Synchronization **2007**,		6
78	A Programming Model for Time-Synchronized Distributed Real-Time Systems. *Real Time and Embedded Technology and Applications Symposium (RTAS), IEEE*, **2007**,		71
77	Composing Different Models of Computation in Kepler and Ptolemy II. *Lecture Notes in Computer Science*, **2007**, 182-190	0.9	16
76	Leveraging synchronous language principles for heterogeneous modeling and design of embedded systems **2007**,		53
75	The case for the precision timed (PRET) machine. *Proceedings - Design Automation Conference*, **2007** ,		52
74	The Case for the Precision Timed (PRET) Machine. *Proceedings - Design Automation Conference*, **2007**,		10
73	Reinventing Computing for Real Time **2007**, 1-25		3
72	A Code Generation Framework for Actor-Oriented Models with Partial Evaluation. *Lecture Notes in Computer Science*, **2007**, 193-206	0.9	8
71	The problem with threads. *Computer*, **2006**, 39, 33-42	1.6	421
70	Scientific workflow management and the Kepler system. *Concurrency Computation Practice and Experience*, **2006**, 18, 1039-1065	1.4	1001
69	A causality interface for deadlock analysis in dataflow **2006**,		12
68	Incremental Checkpointing with Application to Distributed Discrete Event Simulation **2006**,		5
67	Concurrent Semantics Without the Notions of State or State Transitions. *Lecture Notes in Computer Science*, **2006**, 18-31	0.9	3
66	Modeling Timed Concurrent Systems. *Lecture Notes in Computer Science*, **2006**, 1-15	0.9	18

65	Hyvisual: A Hybrid System Modeling Framework Based on Ptolemy II **2006**, 270-271		
64	Beyond Zeno: Get on with It!. *Lecture Notes in Computer Science*, **2006**, 568-582	0.9	13
63	Engineering Education: A Focus on Systems **2005**, 69-77		
62	Counting interface automata and their application in static analysis of actor models **2005**,		3
61	Operational Semantics of Hybrid Systems. *Lecture Notes in Computer Science*, **2005**, 25-53	0.9	78
60	Concurrent models of computation for embedded software. *IEE Proceedings: Computers and Digital Techniques*, **2005**, 152, 239		12
59	Absolutely positively on time: what would it take? [embedded computing systems]. *Computer*, **2005** , 38, 85-87	1.6	27
58	Heterogeneous Modeling and Design of Control Systems **2004**, 105-122		10
57	A behavioral type system and its application in Ptolemy II. *Formal Aspects of Computing*, **2004**, 16, 210	1.2	40
56	Actor-oriented control system design: a responsible framework perspective. *IEEE Transactions on Control Systems Technology*, **2004**, 12, 250-262	4.8	20
55	Modeling of sensor nets in Ptolemy II **2004**,		40
54	Actor-Oriented Models for Codesign **2004**, 33-56		8
53	Actor-Oriented Design of Embedded Hardware and Software Systems. *Journal of Circuits, Systems and Computers*, **2003**, 12, 231-260	0.9	113
52	The semantics and execution of a synchronous block-diagram language. *Science of Computer Programming*, **2003**, 48, 21-42	1.1	61
51	. *IEEE Control Systems*, **2003**, 23, 65-75	2.9	38
50	Taming heterogeneity - the Ptolemy approach. *Proceedings of the IEEE*, **2003**, 91, 127-144	14.3	568
49	On the Causality of Mixed-Signal and Hybrid Models. *Lecture Notes in Computer Science*, **2003**, 328-342	0.9	8
48	A component-based approach to modeling and simulating mixed-signal and hybrid systems. *ACM Transactions on Modeling and Computer Simulation*, **2002**, 12, 343-368	0.6	20

47	Embedded Software. *Advances in Computers*, **2002**, 56, 55-95	2.9	34
46	. *IEEE Transactions on Signal Processing*, **2002**, 50, 2064-2079	4.8	64
45	Dataflow Process Networks **2002**, 59-85		9
44	Generating Compact Code from Dataflow Specifications of Multirate Signal Processing Algorithms **2002**, 452-464		
43	System-Level Types for Component-Based Design. *Lecture Notes in Computer Science*, **2001**, 237-253	0.9	20
42	What's ahead for embedded software?. *Computer*, **2000**, 33, 18-26	1.6	114
41	A code generation framework for Java component-based designs **2000**,		3
40	An Extensible Type System for Component-Based Design. *Lecture Notes in Computer Science*, **2000**, 20-37	0.9	5
39	Advances in the dataflow computational model. *Parallel Computing*, **1999**, 25, 1907-1929	1	54
38	Modeling concurrent real-time processes using discrete events. *Annals of Software Engineering*, **1999**, 7, 25-45		71
37	Synthesis of Embedded Software from Synchronous Dataflow Specifications. *Journal of Signal Processing Systems*, **1999**, 21, 151-166		109
36	Hierarchical finite state machines with multiple concurrency models. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **1999**, 18, 742-760	2.5	146
35	Interoperation of heterogeneous CAD tools in Ptolemy II **1999**,		5
34	. *Computer*, **1998**, 31, 77-85	1.6	23
33	A framework for comparing models of computation. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, **1998**, 17, 1217-1229	2.5	349
32	Compile-time scheduling of dynamic constructs in dataflow program graphs. *IEEE Transactions on Computers*, **1997**, 46, 768-778	2.5	27
31	Design of embedded systems: formal models, validation, and synthesis. *Proceedings of the IEEE*, **1997**, 85, 366-390	14.3	229
30	. *IEEE Transactions on Signal Processing*, **1997**, 45, 1605-1618	4.8	12

29	Heterogeneous SimulationMixing Discrete-Event Models with Dataflow. *Journal of Signal Processing Systems*, **1997**, 15, 127-144		19
28	Determining the Order of Processor Transactions in Statically Scheduled Multiprocessors. *Journal of Signal Processing Systems*, **1997**, 15, 207-220		14
27	Joint Minimization of Code and Data for Synchronous Dataflow Programs. *Formal Methods in System Design*, **1997**, 11, 41-70	1.4	31
26	APGAN and RPMC: Complementary Heuristics for Translating DSP Block Diagrams into Efficient Software Implementations. *Design Automation for Embedded Systems*, **1997**, 2, 33-60	0.6	24
25	The Extended Partitioning Problem: Hardware/Software Mapping, Scheduling, and Implementation-bin Selection. *Design Automation for Embedded Systems*, **1997**, 2, 125-163	0.6	34
24	. *IEEE Transactions on Information Theory*, **1996**, 42, 1062-1071	2.8	8
23	Complexity management in system-level design. *Journal of Signal Processing Systems*, **1996**, 14, 157-169		2
22	Software Synthesis from Dataflow Graphs. *Kluwer International Series in Engineering and Computer Science*, **1996**,		162
21	Software synthesis for DSP using ptolemy. *Journal of Signal Processing Systems*, **1995**, 9, 7-21		46
20	. *Proceedings of the IEEE*, **1995**, 83, 773-801	14.3	475
19	. *IEEE Transactions on Circuits and Systems Part 1: Regular Papers*, **1995**, 42, 138-150		25
18	Looped schedules for dataflow descriptions of multirate signal processing algorithms. *Formal Methods in System Design*, **1994**, 5, 183-205	1.4	11
17	. *IEEE Transactions on Signal Processing*, **1994**, 42, 1190-1201	4.8	16
16	. *IEEE Journal on Selected Areas in Communications*, **1993**, 11, 367-379	14.2	525
15	. *IEEE Transactions on Parallel and Distributed Systems*, **1993**, 4, 625-637	3.7	37
14	. *IEEE Transactions on Parallel and Distributed Systems*, **1993**, 4, 175-187	3.7	507
13	Scheduling synchronous dataflow graphs for efficient looping. *Journal of Signal Processing Systems*, **1993**, 6, 271-288		22
12	. *IEEE Transactions on Parallel and Distributed Systems*, **1991**, 2, 223-235	3.7	69

11	. *IEEE Network*, **1991**, 5, 44-54	11.4	47
10	. *IEEE Transactions on Computers*, **1991**, 40, 1225-1238	2.5	38
9	. *Proceedings of the IEEE*, **1990**, 78, 1369-1394	14.3	100
8	. *IEEE Micro*, **1990**, 10, 14-16	1.8	15
7	. *IEEE Micro*, **1990**, 10, 28-45	1.8	23
6	. *IEEE Transactions on Acoustics, Speech, and Signal Processing*, **1989**, 37, 1751-1762		51
5	. *IEEE ASSP Magazine (Acoustics, Speech, and Signal Processing)*, **1988**, 5, 4-19		68
4	Fast recursive filtering with multiple slow processing elements. *IEEE Transactions on Circuits and Systems*, **1985**, 32, 1119-1129		6
3	The semantics of dataflow with firing71-94		8
2	A constructive fixed-point theorem and the feedback semantics of timed systems		10
1	The Fixed-Point Theory of Strictly Contracting Functions on Generalized Ultrametric Semilattices. *Electronic Proceedings in Theoretical Computer Science, EPTCS*,126, 56-71		