Sanjit A Seshia

List of Publications by Year
in descending order

45 papers	1,771 citations	567281 15 h-index	501196 28 g-index
46 all docs	46 docs citations	46 times ranked	1313 citing authors

#	Article	IF	Citations
1	Secure State Estimation for Cyber-Physical Systems Under Sensor Attacks: A Satisfiability Modulo Theory Approach. IEEE Transactions on Automatic Control, 2017, 62, 4917-4932.	5.7	219
2	A Contract-Based Methodology for Aircraft Electric Power System Design. IEEE Access, 2014, 2, 1-25.	4.2	147
3	Scenic: a language for scenario specification and scene generation. , 2019, , .		144
4	Design Automation of Cyber-Physical Systems: Challenges, Advances, and Opportunities. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 1421-1434.	2.7	107
5	VerifAI: A Toolkit for the Formal Design and Analysis of Artificial Intelligence-Based Systems. Lecture Notes in Computer Science, 2019, , 432-442.	1.3	100
6	Information gathering actions over human internal state. , 2016, , .		93
7	Reverse Engineering Digital Circuits Using Structural and Functional Analyses. IEEE Transactions on Emerging Topics in Computing, 2014, 2, 63-80.	4.6	92
8	Compositional Falsification of Cyber-Physical Systems with Machine Learning Components. Journal of Automated Reasoning, 2019, 63, 1031-1053.	1.4	70
9	Formal Scenario-Based Testing of Autonomous Vehicles: From Simulation to the Real World. , 2020, , .		65
10	Compositional Falsification of Cyber-Physical Systems with Machine Learning Components. Lecture Notes in Computer Science, 2017, , 357-372.	1.3	62
11	Privacy-aware quadratic optimization using partially homomorphic encryption. , 2016, , .		59
12	A learning based approach to control synthesis of Markov decision processes for linear temporal logic specifications. , 2014, , .		52
13	Toward an Internet of Battlefield Things: A Resilience Perspective. Computer, 2018, 51, 24-36.	1.1	48
14	Compositional controller synthesis for vehicular traffic networks. , 2015, , .		36
15	SMC: Satisfiability Modulo Convex Programming. Proceedings of the IEEE, 2018, 106, 1655-1679.	21.3	35
16	Linear temporal logic motion planning for teams of underactuated robots using satisfiability modulo convex programming. , 2017, , .		33
17	Semantic Adversarial Deep Learning. Lecture Notes in Computer Science, 2018, , 3-26.	1.3	32
18	Cloud-Based Quadratic Optimization With Partially Homomorphic Encryption. IEEE Transactions on Automatic Control, 2021, 66, 2357-2364.	5.7	31

#	ARTICLE	IF	CITATIONS
19	Counterexample-Guided Data Augmentation. , 2018, , .		31
20	Synthesis of Obfuscation Policies to Ensure Privacy and Utility. Journal of Automated Reasoning, 2018, 60, 107-131.	1.4	29
21	Combining Induction, Deduction, and Structure for Verification and Synthesis. Proceedings of the IEEE, 2015, 103, 2036-2051.	21.3	28
22	Formal Analysis and Redesign of a Neural Network-Based Aircraft Taxiing System with VerifAI. Lecture Notes in Computer Science, 2020, , 122-134.	1.3	28
23	Sound and complete state estimation for linear dynamical systems under sensor attacks using Satisfiability Modulo Theory solving. , 2015, , .		26
24	Scalable lazy SMT-based motion planning. , 2016, , .		23
25	Secure state reconstruction in differentially flat systems under sensor attacks using satisfiability modulo theory solving. , 2015, , .		18
26	SMT-Based Observer Design for Cyber-Physical Systems under Sensor Attacks. , 2016, , .		18
27	Scenic: a language for scenario specification and data generation. Machine Learning, 2023, 112, 3805-3849.	5.4	18
28	Will Distributed Computing Revolutionize Peace? The Emergence of Battlefield IoT. , 2018, , .		17
29	Dynamic contracts for distributed temporal logic control of traffic networks. , 2017, , .		14
30	A Programmatic and Semantic Approach to Explaining and Debugging Neural Network Based Object Detectors. , 2020, , .		12
31	On Solving Boolean Combinations of UTVPI Constraints. Journal of Satisfiability, Boolean Modeling and Computation, 2007, 3, 67-90.	1.2	11
32	Semantic Adversarial Deep Learning. IEEE Design and Test, 2020, 37, 8-18.	1.2	10
33	Enforcing Almost-Sure Reachability in POMDPs. Lecture Notes in Computer Science, 2021, , 602-625.	1.3	10
34	Runtime Monitors for Markov Decision Processes. Lecture Notes in Computer Science, 2021, , 553-576.	1.3	8
35	Autonomic Reactive Systems via Online Learning. , 2007, , .		7
36	Introspective Environment Modeling. Lecture Notes in Computer Science, 2019, , 15-26.	1.3	7

#	Article	IF	Citations
37	Model Checking Finite-Horizon Markov Chains with Probabilistic Inference. Lecture Notes in Computer Science, 2021, , 577-601.	1.3	6
38	Compositional Performance Verification of Network-on-Chip Designs. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 1370-1383.	2.7	5
39	Maximum Causal Entropy Specification Inference from Demonstrations. Lecture Notes in Computer Science, 2020, , 255-278.	1.3	4
40	Formal Analysis of AI-Based Autonomy: From Modeling to Runtime Assurance. Lecture Notes in Computer Science, 2021, , 311-330.	1.3	4
41	Reactive Control Improvisation. Lecture Notes in Computer Science, 2018, , 307-326.	1.3	4
42	Explorations in cyber-physical systems education. Communications of the ACM, 2022, 65, 60-69.	4.5	4
43	Cyber-Physical Systems Education: Explorations and Dreams. Lecture Notes in Computer Science, 2018, , 407-422.	1.3	2
44	Guest Editorial Special Issue on Automotive Embedded Systems. IEEE Embedded Systems Letters, 2010, 2, 21-22.	1.9	1
45	Querying Labelled Data with Scenario Programs for Sim-to-Real Validation. , 2022, , .		1