Necmiye Ozay

List of Publications by Year
in descending order

100 papers	1,873 citations	623574 14 h-index	414303 32 g-index
101 all docs	101 docs citations	101 times ranked	931 citing authors

#	Article	IF	Citations
1	Data-Driven Computation of Robust Control Invariant Sets With Concurrent Model Selection. IEEE Transactions on Control Systems Technology, 2022, 30, 495-506.	3.2	10
2	Revisiting Ho–Kalman-Based System Identification: Robustness and Finite-Sample Analysis. IEEE Transactions on Automatic Control, 2022, 67, 1914-1928.	3.6	13
3	Learning temporal logic formulas from suboptimal demonstrations: theory and experiments. Autonomous Robots, 2022, 46, 149-174.	3.2	5
4	Scalable Zonotopic Under-Approximation of Backward Reachable Sets for Uncertain Linear Systems. , 2022, 6, 1555-1560.		9
5	Correction to "Planning With Learned Dynamics: Probabilistic Guarantees on Safety and Reachability Via Lipschitz Constants"[Jul21 5129-5136]. IEEE Robotics and Automation Letters, 2022, 7, 381-381.	3.3	1
6	A general language-based framework for specifying and verifying notions of opacity. Discrete Event Dynamic Systems: Theory and Applications, 2022, 32, 253-289.	0.6	13
7	Correct-By-Construction Exploration and Exploitation for Unknown Linear Systems Using Bilinear Optimization. , 2022, , .		1
8	Safety Control Synthesis for Systems with Missing Measurements. IFAC-PapersOnLine, 2021, 54, 97-102.	0.5	2
9	Using control synthesis for falsification and corner case generation. , 2021, , .		0
10	Large-Scale Invariant Sets for Safe Coordination of Thermostatic Loads. , 2021, , .		4
11	Compositional safety rules for inter-triggering hybrid automata. , 2021, , .		0
12	Planning With Learned Dynamics: Probabilistic Guarantees on Safety and Reachability via Lipschitz Constants. IEEE Robotics and Automation Letters, 2021, 6, 5129-5136.	3.3	15
13	Learning constraints from demonstrations with grid and parametric representations. International Journal of Robotics Research, 2021, 40, 1255-1283.	5.8	5
14	Divergent stutter bisimulation abstraction for controller synthesis with linear temporal logic specifications. Automatica, 2021, 130, 109723.	3.0	3
15	Synthesis-guided Adversarial Scenario Generation for Gray-box Feedback Control Systems with Sensing Imperfections. Transactions on Embedded Computing Systems, 2021, 20, 1-25.	2.1	4
16	Toward Phase-Variable Control of Sit-to-Stand Motion with a Powered Knee-Ankle Prosthesis. , 2021, 2021, 627-633.		3
17	Optimal Control for Linear Networked Control Systems with Information Transmission Constraints. , 2021, , .		2
18	Model Error Propagation via Learned Contraction Metrics for Safe Feedback Motion Planning of Unknown Systems. , 2021, , .		9

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19	Fuel Cell Thermal Management: Modeling, Specifications, and Correct-by-Construction Control Synthesis. IEEE Transactions on Control Systems Technology, 2020, 28, 1638-1651.	3.2	11
20	Control Synthesis for Permutation-Symmetric High-Dimensional Systems With Counting Constraints. IEEE Transactions on Automatic Control, 2020, 65, 461-476.	3.6	5
21	Passivity-based analysis of sampled and quantized control implementations. Automatica, 2020, 119, 109064.	3.0	5
22	Parameter Sensitivity Analysis of Controlled Invariant Sets via Value Iteration. , 2020, , .		1
23	Scalable Computation of Controlled Invariant Sets for Discrete-Time Linear Systems with Input Delays. , 2020, , .		7
24	Learning Constraints From Locally-Optimal Demonstrations Under Cost Function Uncertainty. IEEE Robotics and Automation Letters, 2020, 5, 3682-3690.	3.3	15
25	Connected and automated road vehicles: state of the art and future challenges. Vehicle System Dynamics, 2020, 58, 672-704.	2.2	78
26	Multirobot Coordination With Counting Temporal Logics. IEEE Transactions on Robotics, 2020, 36, 1189-1206.	7.3	38
27	Finite horizon constrained control and bounded-error estimation in the presence of missing data. Nonlinear Analysis: Hybrid Systems, 2020, 36, 100854.	2.1	8
28	A software architecture for autonomous taxiing of aircraft. , 2020, , .		3
29	Efficient Safety Control Synthesis with Imperfect State Information. , 2020, , .		2
30	Belief-prefix Control for Autonomously Dodging Switching Disturbances. , 2020, , .		0
31	Safe Autonomous Overtaking with Intention Estimation. , 2019, , .		2
32	Equalized recovery: Weakening invariance for control and estimation. , 2019, , .		0
33	Combining LTL monitoring with model invalidation for improved fault detectability analysis for hybrid systems. , 2019, , .		0
34	Non-asymptotic Identification of LTI Systems from a Single Trajectory. , 2019, , .		63
35	Fault Detectability Analysis of Switched Affine Systems with Linear Temporal Logic Constraints. , 2019, , .		3
36	Coordination between an Aggregator and Distribution Operator to Achieve Network-Aware Load Control. , 2019, , .		10

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37	Tight decomposition functions for mixed monotonicity. , 2019, , .		10
38	On Sufficient Conditions for Mixed Monotonicity. IEEE Transactions on Automatic Control, 2019, 64, 5080-5085.	3.6	30
39	Quickly Finding Recursively Feasible Solutions for MPC with Discrete Variables. , 2019, , .		1
40	Provably-Correct Compositional Synthesis of Vehicle Safety Systems. Unmanned System Technologies, 2019, , 97-122.	0.9	2
41	Safety Control with Preview Automaton. , 2019, , .		2
42	Prefix-based Bounded-error Estimation with Intermittent Observations. , 2019, , .		3
43	Correct-by-construction control synthesis for buck converters with event-triggered state measurement. , 2019, , .		1
44	Managing Voltage Excursions on the Distribution Network by Limiting the Aggregate Variability of Thermostatic Loads. , 2019, , .		2
45	Guaranteed model-based fault detection in cyberâ€"physical systems: A model invalidation approach. Automatica, 2018, 93, 476-488.	3.0	46
46	Optimal Gear Shift Schedule Design for Automated Vehicles: Hybrid System Based Analytical Approach. IEEE Transactions on Control Systems Technology, 2018, 26, 2078-2090.	3.2	16
47	Using Control Synthesis to Generate Corner Cases: A Case Study on Autonomous Driving. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 2906-2917.	1.9	26
48	Fault-Tolerant Output-Feedback Path Planning with Temporal Logic Constraints. , 2018, , .		7
49	Data-Driven Computation of Minimal Robust Control Invariant Set. , 2018, , .		26
50	Structural Detectability of Faults in Discrete-Time Affine Systems. , 2018, , .		0
51	Nonuniform abstractions, refinement and controller synthesis with novel BDD encodings. IFAC-PapersOnLine, 2018, 51, 19-24.	0.5	7
52	Optimization-Based Design of Bounded-Error Estimators Robust to Missing Data. IFAC-PapersOnLine, 2018, 51, 157-162.	0.5	10
53	Input Design for Nonlinear Model Discrimination via Affine Abstraction. IFAC-PapersOnLine, 2018, 51, 175-180.	0.5	12
54	A Robust Algorithm for Online Switched System Identification. IFAC-PapersOnLine, 2018, 51, 293-298.	0.5	5

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55	Optimal Input Design for Affine Model Discrimination with Applications in Intention-Aware Vehicles. , 2018, , .		7
56	Guest editorial: special issue on formal methods in control. Discrete Event Dynamic Systems: Theory and Applications, 2017, 27, 205-208.	0.6	6
57	Fuel cell thermal management: Modeling, specifications and correct-by-construction control synthesis. , 2017, , .		6
58	Weak adaptive submodularity and group-based active diagnosis with applications to state estimation with persistent sensor faults. , 2017, , .		1
59	Augmented finite transition systems as abstractions for control synthesis. Discrete Event Dynamic Systems: Theory and Applications, 2017, 27, 301-340.	0.6	30
60	Active Model Discrimination with Applications to Fraud Detection in Smart Buildings * *This work is supported in part by an Early Career Faculty grant from NASAâ€™s Space Technology Research Grants Program and DARPA grant N66001-14-1-4045.. IFAC-PapersOnLine, 2017, 50, 9527-9534.	0.5	11
61	Synchronous and asynchronous multi-agent coordination with cLTL+ constraints. , 2017, , .		12
62	Provably-correct fault tolerant control with delayed information. , 2017, , .		3
63	Guaranteed fault detection and isolation for switched affine models. , 2017, , .		10
64	Provably-correct coordination of large collections of agents with counting temporal logic constraints. , 2017, , .		17
65	A bisimulation-like algorithm for abstracting control systems. , 2016, , .		1
66	Interdependence quantification for compositional control synthesis with an application in vehicle safety systems. , 2016, , .		27
67	Finite abstractions with robustness margins for temporal logic-based control synthesis. Nonlinear Analysis: Hybrid Systems, 2016, 22, 1-15.	2.1	41
68	Synthesis of fault tolerant switching protocols for vehicle engine thermal management. , 2016, , .		6
69	Synthesis of separable controlled invariant sets for modular local control design. , 2016, , .		24
70	Model (in)validation and fault detection for systems with polynomial state-space models. , 2016, , .		7
71	Verification Guided Refinement of Flight Safety Assessment and Management System for Takeoff. Journal of Aerospace Information Systems, 2016, 13, 357-369.	1.0	11
72	Control design for hybrid systems with TuLiP: The Temporal Logic Planning toolbox. , 2016, , .		44

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73	Correct-by-Construction Adaptive Cruise Control: Two Approaches. IEEE Transactions on Control Systems Technology, 2016, 24, 1294-1307.	3.2	114
74	Control Synthesis for Large Collections of Systems with Mode-Counting Constraints. , 2016, , .		18
75	Computing finite abstractions with robustness margins via local reachable set over-approximation**This work is supported, in part, by EU FP7 Grant PCIG13-GA-2013-61737 and NSF grant CNS-1446298.. IFAC-PapersOnLine, 2015, 48, 1-6.	0.5	4
76	Model Invalidation for Switched Affine Systems with Applications to Fault and Anomaly Detection**This work is supported in part by DARPA grant N66001-14-1-4045.. IFAC-PapersOnLine, 2015, 48, 260-266.	0.5	10
77	Passivity degradation in discrete control implementations: An approximate bisimulation approach. , 2015, , .		3
78	Set membership identification of switched linear systems with known number of subsystems. Automatica, 2015, 51, 180-191.	3.0	52
79	Control Software Synthesis and Validation for a Vehicular Electric Power Distribution Testbed. Journal of Aerospace Information Systems, 2014, 11, 665-678.	1.0	4
80	Synthesis of correct-by-construction control protocols for hybrid systems using partial state information. , 2014, , .		28
81	Surviving the upcoming data deluge: A systems and control perspective. , 2014, , .		6
82	Preliminary results on correct-by-construction control software synthesis for adaptive cruise control. , 2014, , .		28
83	Abstraction, discretization, and robustness in temporal logic control of dynamical systems. , 2014, , .		39
84	Efficient control synthesis for augmented finite transition systems with an application to switching protocols. , 2014, , .		8
85	A Contract-Based Methodology for Aircraft Electric Power System Design. IEEE Access, 2014, 2, 1-25.	2.6	147
86	Convex Certificates for Model (In)validation of Switched Affine Systems With Unknown Switches. IEEE Transactions on Automatic Control, 2014, 59, 2921-2932.	3.6	31
87	Incremental synthesis of switching protocols via abstraction refinement. , 2014, , .		30
88	Synthesis of Reactive Switching Protocols From Temporal Logic Specifications. IEEE Transactions on Automatic Control, 2013, 58, 1771-1785.	3.6	114
89	Computing augmented finite transition systems to synthesize switching protocols for polynomial switched systems. , 2013, , .		29
90	On synthesizing robust discrete controllers under modeling uncertainty. , 2012, , .		32

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91	Reactive controllers for differentially flat systems with temporal logic constraints. , 2012, , .		10
92	A Sparsification Approach to Set Membership Identification of Switched Affine Systems. IEEE Transactions on Automatic Control, 2012, 57, 634-648.	3.6	95
93	TuLiP. , 2011, , .		132
94	Hybrid system identification with faulty measurements and its application to activity analysis. , 2011, , .		5
95	Model (in) validation of switched ARX systems with unknown switches and its application to activity monitoring. , 2010, , .		14
96	Robust identification of switched affine systems via moments-based convex optimization. , 2009, , .		32
97	Sequential sparsification for change detection. , 2008, , .		14
98	A sparsification approach to set membership identification of a class of affine hybrid systems. , 2008, , .		37
99	A pessimistic approach to frequency domain model (in)validation. , 2007, , .		3
100	Explaining Multi-stage Tasks by Learning Temporal Logic Formulas from Suboptimal Demonstrations. , 0, , .		12