

Mykel J Kochenderfer

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.

103
papers

1,895
citations

19
h-index

41
g-index

120
ext. papers

2,596
ext. citations

3.1
avg, IF

5.66
L-index

#	Paper	IF	Citations
103	ZoPE: A Fast Optimizer for ReLU Networks with Low-Dimensional Inputs. <i>Lecture Notes in Computer Science</i> , 2022 , 299-317	0.9	
102	Verification of Image-based Neural Network Controllers Using Generative Models 2021 ,		4
101	A Hybrid Rule-Based and Data-Driven Approach to Driver Modeling Through Particle Filtering. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2021 , 1-14	6.1	
100	Multimodal sensing and intuitive steering assistance improve navigation and mobility for people with impaired vision. <i>Science Robotics</i> , 2021 , 6, eabg6594	18.6	2
99	Parameter-Conditioned Sequential Generative Modeling of Fluid Flows. <i>AIAA Journal</i> , 2021 , 59, 825-841	2.1	1
98	Algorithms for Verifying Deep Neural Networks. <i>Foundations and Trends in Optimization</i> , 2021 , 4, 244-404	4.9	16
97	Tax-Aware Portfolio Construction via Convex Optimization. <i>Journal of Optimization Theory and Applications</i> , 2021 , 189, 364-383	1.6	0
96	Sensing leg movement enhances wearable monitoring of energy expenditure. <i>Nature Communications</i> , 2021 , 12, 4312	17.4	4
95	Explaining COVID-19 outbreaks with reactive SEIRD models. <i>Scientific Reports</i> , 2021 , 11, 17905	4.9	3
94	Algorithms for Verifying Deep Neural Networks 2021 ,		4
93	Model primitives for hierarchical lifelong reinforcement learning. <i>Autonomous Agents and Multi-Agent Systems</i> , 2020 , 34, 1	2	7
92	Normalizing Flow Policies for Multi-agent Systems. <i>Lecture Notes in Computer Science</i> , 2020 , 277-296	0.9	0
91	Estimation and control using sampling-based Bayesian reinforcement learning. <i>IET Cyber-Physical Systems: Theory and Applications</i> , 2020 , 5, 127-135	2.5	
90	Validation of Image-Based Neural Network Controllers through Adaptive Stress Testing 2020 ,		7
89	Point-Based Methods for Model Checking in Partially Observable Markov Decision Processes. <i>Proceedings of the AAAI Conference on Artificial Intelligence</i> , 2020 , 34, 10061-10068	5	4
88	Towards Verification of Neural Networks for Small Unmanned Aircraft Collision Avoidance 2020 ,		1
87	Toward Closing the Loop on Human Values. <i>IEEE Transactions on Intelligent Vehicles</i> , 2019 , 4, 437-446	5	2

86	Distributed Wildfire Surveillance with Autonomous Aircraft Using Deep Reinforcement Learning. <i>Journal of Guidance, Control, and Dynamics</i> , 2019 , 42, 1768-1778	2.1	24
85	Recovering missing CFD data for high-order discretizations using deep neural networks and dynamics learning. <i>Journal of Computational Physics</i> , 2019 , 395, 105-124	4.1	22
84	Rapid energy expenditure estimation for ankle assisted and inclined loaded walking. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2019 , 16, 67	5.3	9
83	Decomposition methods with deep corrections for reinforcement learning. <i>Autonomous Agents and Multi-Agent Systems</i> , 2019 , 33, 330-352	2	1
82	Deep Reinforcement Learning for Event-Driven Multi-Agent Decision Processes. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2019 , 20, 1259-1268	6.1	13
81	Simulating Emergent Properties of Human Driving Behavior Using Multi-Agent Reward Augmented Imitation Learning 2019 ,		10
80	Tutorial on the generation of ergodic trajectories with projection-based gradient descent. <i>IET Cyber-Physical Systems: Theory and Applications</i> , 2019 , 4, 89-100	2.5	4
79	The Marabou Framework for Verification and Analysis of Deep Neural Networks. <i>Lecture Notes in Computer Science</i> , 2019 , 443-452	0.9	99
78	Learning an Urban Air Mobility Encounter Model from Expert Preferences 2019 ,		3
77	Cooperation-Aware Reinforcement Learning for Merging in Dense Traffic 2019 ,		25
76	Guaranteeing Safety for Neural Network-Based Aircraft Collision Avoidance Systems 2019 ,		12
75	Learning Probabilistic Trajectory Models of Aircraft in Terminal Airspace From Position Data. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2019 , 20, 3536-3545	6.1	28
74	Deep Neural Network Compression for Aircraft Collision Avoidance Systems. <i>Journal of Guidance, Control, and Dynamics</i> , 2019 , 42, 598-608	2.1	48
73	Adaptive Stress Testing of Safety-Critical Systems. <i>Unmanned System Technologies</i> , 2019 , 77-95	0.4	2
72	Horizontal Maneuver Coordination for Aircraft Collision-Avoidance Systems. <i>Journal of Aerospace Information Systems</i> , 2018 , 15, 92-106	1	3
71	Differential Adaptive Stress Testing of Airborne Collision Avoidance Systems 2018 ,		6
70	Autonomous Distributed Wildfire Surveillance using Deep Reinforcement Learning 2018 ,		5
69	Closed-Loop Policies for Operational Tests of Safety-Critical Systems. <i>IEEE Transactions on Intelligent Vehicles</i> , 2018 , 3, 317-328	5	3

68	Value Sensitive Design for Autonomous Vehicle Motion Planning 2018 ,		14
67	Optimal Aircraft Rerouting during Space Launches using Adaptive Spatial Discretization 2018 ,		2
66	A comparison of Monte Carlo tree search and rolling horizon optimization for large-scale dynamic resource allocation problems. <i>European Journal of Operational Research</i> , 2017 , 263, 664-678	5.6	18
65	Cooperative Multi-agent Control Using Deep Reinforcement Learning. <i>Lecture Notes in Computer Science</i> , 2017 , 66-83	0.9	197
64	Markov Decision Process-Based Distributed Conflict Resolution for Drone Air Traffic Management. <i>Journal of Guidance, Control, and Dynamics</i> , 2017 , 40, 69-80	2.1	16
63	Learning Traffic Patterns at Small Airports From Flight Tracks. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2017 , 18, 917-926	6.1	18
62	Reluplex: An Efficient SMT Solver for Verifying Deep Neural Networks. <i>Lecture Notes in Computer Science</i> , 2017 , 97-117	0.9	333
61	Improving Aircraft Collision Risk Estimation Using the Cross-Entropy Method. <i>Journal of Air Transportation</i> , 2016 , 24, 55-62	0.6	2
60	Probabilistic Airport Acceptance Rate Prediction 2016 ,		12
59	Multi-Rotor Aircraft Collision Avoidance using Partially Observable Markov Decision Processes 2016 ,		18
58	Simulation Comparison of Collision Avoidance Algorithms for Small Multi-Rotor Aircraft 2016 ,		10
57	Optimized and trusted collision avoidance for unmanned aerial vehicles using approximate dynamic programming 2016 ,		6
56	Customer Simulation for Direct Marketing Experiments 2016 ,		4
55	Collision avoidance for unmanned aircraft using coordination tables 2016 ,		2
54	Dynamic logic selection for unmanned aircraft separation 2016 ,		3
53	Policy compression for aircraft collision avoidance systems 2016 ,		72
52	Factor graph scene distributions for automotive safety analysis 2016 ,		10
51	Analysis of microscopic behavior models for probabilistic modeling of driver behavior 2016 ,		16

50	Ground Delay Program Planning Using Markov Decision Processes. <i>Journal of Aerospace Computing, Information, and Communication</i> , 2016 , 13, 134-142		3
49	Optimization Approaches to the Single Airport Ground Hold Problem 2015 ,		1
48	Bayesian Preference Elicitation for Multiobjective Engineering Design Optimization. <i>Journal of Aerospace Information Systems</i> , 2015 , 12, 634-645	1	6
47	Control of epidemics on graphs 2015 ,		3
46	Improving Aircraft Collision Risk Estimation using the Cross-Entropy Method 2015 ,		1
45	Optimizing a Collision-Avoidance System for Closely Spaced Parallel Operations. <i>Journal of Aerospace Information Systems</i> , 2015 , 12, 618-633	1	2
44	Initial Scene Configurations for Highway Traffic Propagation 2015 ,		8
43	A Probabilistic Framework for Microscopic Traffic Propagation 2015 ,		3
42	Optimization Approaches to the Single Airport Ground-Holding Problem. <i>Journal of Guidance, Control, and Dynamics</i> , 2015 , 38, 2399-2406	2.1	9
41	Short-term conflict resolution for unmanned aircraft traffic management 2015 ,		8
40	Adaptive stress testing of airborne collision avoidance systems 2015 ,		2
39	Decision Making Under Uncertainty 2015 ,		167
38	Error model estimation for airborne beacon-based surveillance. <i>IET Radar, Sonar and Navigation</i> , 2014 , 8, 667-675	1.4	3
37	Decentralized control of partially observable Markov decision processes 2013 ,		40
36	Collision Avoidance System Optimization for Closely Spaced Parallel Operations through Surrogate Modeling 2013 ,		4
35	Compression of Optimal Value Functions for Markov Decision Processes 2013 ,		4
34	Vertical State Estimation for Aircraft Collision Avoidance with Quantized Measurements. <i>Journal of Guidance, Control, and Dynamics</i> , 2013 , 36, 1797-1802	2.1	12
33	Optimizing the Next Generation Collision Avoidance System for Safe, Suitable, and Acceptable Operational Performance. <i>Air Traffic Control Quarterly</i> , 2013 , 21, 275-297		26

32	Fielding a Sense and Avoid Capability for Unmanned Aircraft Systems: Policy, Standards, Technology, and Safety Modeling. <i>Air Traffic Control Quarterly</i> , 2013 , 21, 5-27		
31	Collision Avoidance Using Partially Controlled Markov Decision Processes. <i>Communications in Computer and Information Science</i> , 2013 , 86-100	0.3	6
30	Collision avoidance for general aviation. <i>IEEE Aerospace and Electronic Systems Magazine</i> , 2012 , 27, 4-12	2.4	16
29	A New Approach for Designing Safer Collision Avoidance Systems. <i>Air Traffic Control Quarterly</i> , 2012 , 20, 27-45		12
28	Decomposition Methods for Optimized Collision Avoidance with Multiple Threats. <i>Journal of Guidance, Control, and Dynamics</i> , 2012 , 35, 398-405	2.1	21
27	Hazard Alerting Based on Probabilistic Models. <i>Journal of Guidance, Control, and Dynamics</i> , 2012 , 35, 442-450	2.1	5
26	Decomposition methods for optimized collision avoidance with multiple threats 2011 ,		1
25	Aircraft Collision Avoidance Using Monte Carlo Real-Time Belief Space Search. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2011 , 64, 277-298	2.9	27
24	Collision avoidance system optimization with probabilistic pilot response models 2011 ,		5
23	Analysis of open-loop and closed-loop planning for aircraft collision avoidance 2011 ,		2
22	Collision avoidance for general aviation 2011 ,		3
21	Position validation strategies using partially observable Markov decision processes 2011 ,		1
20	Accounting for State Uncertainty in Collision Avoidance. <i>Journal of Guidance, Control, and Dynamics</i> , 2011 , 34, 951-960	2.1	36
19	Efficiently Estimating Ambient Near Mid-Air Collision Risk for Unmanned Aircraft* 2010 ,		8
18	On Estimating Mid-Air Collision Risk 2010 ,		8
17	Airspace Encounter Models for Estimating Collision Risk. <i>Journal of Guidance, Control, and Dynamics</i> , 2010 , 33, 487-499	2.1	95
16	Collision Avoidance for Unmanned Aircraft using Markov Decision Processes* 2010 ,		58
15	Robustness of optimized collision avoidance logic to modeling errors 2010 ,		3

14	Improved Monte Carlo Sampling for Conflict Probability Estimation 2010 ,			6
13	A decision-theoretic approach to developing robust collision avoidance logic 2010 ,			19
12	Classification of primary radar tracks using Gaussian mixture models. <i>IET Radar, Sonar and Navigation</i> , 2009 , 3, 559		1.4	1
11	A Bayesian Approach to Aircraft Encounter Modeling 2008 ,			12
10	Hazard Alerting Using Line-of-Sight Rate 2008 ,			15
9	Electro-Optical System Analysis for Sense and Avoid 2008 ,			10
8	Encounter modeling for sense and avoid development 2008 ,			9
7	Evolving Hierarchical and Recursive Teleo-reactive Programs through Genetic Programming. <i>Lecture Notes in Computer Science</i> , 2003 , 83-92		0.9	8
6	Unmanned Aircraft Collision Avoidance using Continuous-State POMDPs			15
5	Towards Proving the Adversarial Robustness of Deep Neural Networks. <i>Electronic Proceedings in Theoretical Computer Science</i> , <i>EPTCS</i> ,257, 19-26			35
4	Generating probabilistic safety guarantees for neural network controllers. <i>Machine Learning</i> ,1		4	2
3	Global optimization of objective functions represented by ReLU networks. <i>Machine Learning</i> ,1		4	5
2	A Survey of Algorithms for Black-Box Safety Validation of Cyber-Physical Systems. <i>Journal of Artificial Intelligence Research</i> ,72,		4	9
1	Reluplex: a calculus for reasoning about deep neural networks. <i>Formal Methods in System Design</i> ,1		1.4	10