Ardalan Vahidi

List of Publications by Year
in descending order

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64 papers	4,310 citations	279701 23 h-index	276775 41 g-index
65 all docs	65 docs citations	65 times ranked	3343 citing authors

#	Article	IF	Citations
1	A review of the main parameters influencing long-term performance and durability of PEM fuel cells. Journal of Power Sources, 2008, 180, 1-14.	4.0	674
2	MPC-Based Energy Management of a Power-Split Hybrid Electric Vehicle. IEEE Transactions on Control Systems Technology, 2012, 20, 593-603.	3.2	552
3	Predictive Cruise Control: Utilizing Upcoming Traffic Signal Information for Improving Fuel Economy and Reducing Trip Time. IEEE Transactions on Control Systems Technology, 2011, 19, 707-714.	3.2	536
4	Energy saving potentials of connected and automated vehicles. Transportation Research Part C: Emerging Technologies, 2018, 95, 822-843.	3.9	332
5	Optimal speed advisory for connected vehicles in arterial roads and the impact on mixed traffic. Transportation Research Part C: Emerging Technologies, 2016, 69, 548-563.	3.9	187
6	Role of Terrain Preview in Energy Management of Hybrid Electric Vehicles. IEEE Transactions on Vehicular Technology, 2010, 59, 1139-1147.	3.9	172
7	Route Preview in Energy Management of Plug-in Hybrid Vehicles. IEEE Transactions on Control Systems Technology, 2012, 20, 546-553.	3.2	172
8	Fast Model Predictive Control-Based Fuel Efficient Control Strategy for a Group of Connected Vehicles in Urban Road Conditions. IEEE Transactions on Control Systems Technology, 2017, 25, 760-767.	3.2	141
9	Mixed-Integer Linear Programming for Optimal Scheduling of Autonomous Vehicle Intersection Crossing. IEEE Transactions on Intelligent Vehicles, 2018, 3, 287-299.	9.4	123
10	An Optimal Velocity-Planning Scheme for Vehicle Energy Efficiency Through Probabilistic Prediction of Traffic-Signal Timing. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 2516-2523.	4.7	115
11	Supercapacitor Electrical and Thermal Modeling, Identification, and Validation for a Wide Range of Temperature and Power Applications. IEEE Transactions on Industrial Electronics, 2016, 63, 1574-1585.	5.2	102
12	Fundamentals of energy efficient driving for combustion engine and electric vehicles: An optimal control perspective. Automatica, 2019, 103, 558-572.	3.0	99
13	Predictive Control of Voltage and Current in a Fuel Cellâ€“Ultracapacitor Hybrid. IEEE Transactions on Industrial Electronics, 2010, 57, 1954-1963.	5.2	92
14	Ultracapacitor Assisted Powertrains: Modeling, Control, Sizing, and the Impact on Fuel Economy. IEEE Transactions on Control Systems Technology, 2011, 19, 576-589.	3.2	92
15	A Two-Stage Lyapunov-Based Estimator for Estimation of Vehicle Mass and Road Grade. IEEE Transactions on Vehicular Technology, 2009, 58, 3177-3185.	3.9	82
16	Constraint Handling in a Fuel Cell System: A Fast Reference Governor Approach. IEEE Transactions on Control Systems Technology, 2007, 15, 86-98.	3.2	75
17	Optimal scheduling of autonomous vehicle arrivals at intelligent intersections via MILP. , 2017, , .		55
18	A fuel economic model predictive control strategy for a group of connected vehicles in urban roads. , 2015, , .		51

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19	Heuristic Versus Optimal Charging of Supercapacitors, Lithium-Ion, and Lead-Acid Batteries: An Efficiency Point of View. IEEE Transactions on Control Systems Technology, 2018, 26, 167-180.	3.2	48
20	Efficient and Collision-Free Anticipative Cruise Control in Randomly Mixed Strings. IEEE Transactions on Intelligent Vehicles, 2018, 3, 439-452.	9.4	41
21	Probabilistic Anticipation and Control in Autonomous Car Following. IEEE Transactions on Control Systems Technology, 2019, 27, 30-38.	3.2	40
22	Nonlinear Model Predictive Control for power-split Hybrid Electric Vehicles. , 2010, , .		37
23	Energy-Efficient Driving of Road Vehicles. Lecture Notes in Intelligent Transportation and Infrastructure, 2020, , .	0.3	36
24	Reconstructing maximum likelihood trajectory of probe vehicles between sparse updates. Transportation Research Part C: Emerging Technologies, 2016, 65, 16-30.	3.9	32
25	A Decentralized Model Predictive Control Approach to Power Management of a Fuel Cell-Ultracapacitor Hybrid. Proceedings of the American Control Conference, 2007, , .	0.0	27
26	Vehicle-in-the-loop (VIL) verification of a smart city intersection control scheme for autonomous vehicles. , 2017, , .		27
27	A Vehicle-in-the-Loop (VIL) verification of an all-autonomous intersection control scheme. Transportation Research Part C: Emerging Technologies, 2019, 107, 193-210.	3.9	26
28	Microsimulation of energy and flow effects from optimal automated driving in mixed traffic. Transportation Research Part C: Emerging Technologies, 2020, 120, 102806.	3.9	26
29	Optimal pacing in a cycling time-trial considering cyclist's fatigue dynamics. , 2013, , .		25
30	Predictive Cruise Control With Probabilistic Constraints for Eco Driving. , 2011, , .		24
31	Crowdsourcing Phase and Timing of Pre-Timed Traffic Signals in the Presence of Queues: Algorithms and Back-End System Architecture. IEEE Transactions on Intelligent Transportation Systems, 2016, 17, 870-881.	4.7	24
32	Ultracapacitor assisted powertrains: Modeling, control, sizing, and the impact on fuel economy. , 2008, , .		21
33	Energy and flow effects of optimal automated driving in mixed traffic: Vehicle-in-the-loop experimental results. Transportation Research Part C: Emerging Technologies, 2021, 130, 103168.	3.9	19
34	Optimal charging of ultracapacitors during regenerative braking. , 2012, , .		17
35	Predictive Time-Delay Control of Vehicle Suspensions. JVC/Journal of Vibration and Control, 2001, 7, 1195-1211.	1.5	16
36	Quantifying the impact of limited information and control robustness on connected automated platoons. , 2017, , .		16

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37	Multi-Intersection Traffic Management for Autonomous Vehicles via Distributed Mixed Integer Linear Programming. , 2018, , .		16
38	Receding Horizon Motion Planning for Automated Lane Change and Merge Using Monte Carlo Tree Search and Level-K Game Theory. , 2020, , .		13
39	Predictively Coordinated Vehicle Acceleration and Lane Selection Using Mixed Integer Programming. , 2018, , .		12
40	Modeling the Recovery of Wâ€² in the Moderate to Heavy Exercise Intensity Domain. Medicine and Science in Sports and Exercise, 2020, 52, 2646-2654.	0.2	11
41	MPC-Based Connected Cruise Control with Multiple Human Predecessors. , 2021, , .		10
42	Optimizing Gap Tracking Subject to Dynamic Losses via Connected and Anticipative MPC in Truck Platooning. , 2020, , .		9
43	Designing a General Neurocontroller for Water Towers. Journal of Engineering Mechanics - ASCE, 2000, 126, 582-587.	1.6	8
44	Heavy vehicle fuel economy improvement using ultracapacitor power assist and preview-based MPC energy management. , 2011, , .		8
45	Automated Vehicles in Hazardous Merging Traffic: A Chance-Constrained Approach. IFAC-PapersOnLine, 2019, 52, 218-223.	0.5	8
46	Feedbackless Relaying for Enhancing Reliability of Connected Vehicles. IEEE Transactions on Vehicular Technology, 2020, 69, 4621-4634.	3.9	7
47	Comparison Of Ventilatory Thresholds Via V-slope Method To Lactate Thresholds With NIRS. Medicine and Science in Sports and Exercise, 2016, 48, 107-108.	0.2	7
48	Adaptive model predictive control for co-ordination of compression and friction brakes in heavy duty vehicles. International Journal of Adaptive Control and Signal Processing, 2006, 20, 581-598.	2.3	6
49	Multi-Agent Control of Lane-Switching Automated Vehicles for Energy Efficiency. , 2020, , .		6
50	Multilane Automated Driving With Optimal Control and Mixed-Integer Programming. IEEE Transactions on Control Systems Technology, 2021, 29, 2561-2574.	3.2	6
51	Modeling the Expenditure and Recovery of Anaerobic Work Capacity in Cycling. Proceedings (mdpi), 2018, 2, .	0.2	5
52	Energy Saving Potentials of CAVs. Lecture Notes in Intelligent Transportation and Infrastructure, 2020, , 1-31.	0.3	5
53	Impact of Model Simplification on Optimal Control of Combustion Engine and Electric Vehicles Considering Control Input Constraints. , 2018, , .		4
54	Model predictive control of a hybrid electric powertrain with combined battery and ultracapacitor energy storage system. International Journal of Powertrains, 2012, 1, 351.	0.1	3

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55	Ultracapacitor power assist with preview-based energy management for reducing fuel consumption of heavy vehicles. International Journal of Powertrains, 2016, 5, 375.	0.1	3
56	To Merge Early or Late: Analysis of Traffic Flow and Energy Impact in a Reduced Lane Scenario. , 2018, , .		3
57	Information and Collaboration Levels in Vehicular Strings: A Comparative Study. IFAC-PapersOnLine, 2020, 53, 13822-13829.	0.5	3
58	Nonlinear Model Predictive Control of Dual Loop - Exhaust Gas Recirculation in a Turbocharged Spark Ignited engine. , 2018, , .		1
59	Monte Carlo Tree Search and Cognitive Hierarchy Theory for Interactive-Behavior Prediction in Fast Trajectory Planning and Automated Lane Change. ASME Journal of Autonomous Vehicles and Systems, 2021, 1, .	0.6	1
60	Optimal Pacing of a Cyclist in a Time Trial Based on Individualized Models of Fatigue and Recovery. IEEE Transactions on Control Systems Technology, 2023, 31, 317-332.	3.2	1
61	Eco-Driving Practical Implementation. Lecture Notes in Intelligent Transportation and Infrastructure, 2020, , 215-239.	0.3	0
62	Ultracapacitor power assist with preview-based energy management for reducing fuel consumption of heavy vehicles. International Journal of Powertrains, 2016, 5, 375.	0.1	0
63	Comparison of Threshold Determinations between Blood Lactate Samples and Near Infrared Spectroscopy. Medicine and Science in Sports and Exercise, 2016, 48, 434.	0.2	0
64	Detailed Case Studies. Lecture Notes in Intelligent Transportation and Infrastructure, 2020, , 241-273.	0.3	0