

Chen Sun

List of Publications by Year in descending order

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130
papers

2,863
citations

172457

29
h-index

214800

47
g-index

131
all docs

131
docs citations

131
times ranked

2168
citing authors

#	ARTICLE	IF	CITATIONS
1	Top Tension Control of a Flexible Marine Riser by Using Integral-Barrier Lyapunov Function. IEEE/ASME Transactions on Mechatronics, 2015, 20, 497-505.	5.8	202
2	Crash Mitigation in Motion Planning for Autonomous Vehicles. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 3313-3323.	8.0	150
3	Autonomous Vehicle Kinematics and Dynamics Synthesis for Sideslip Angle Estimation Based on Consensus Kalman Filter. IEEE Transactions on Control Systems Technology, 2023, 31, 179-192.	5.2	116
4	Clad height control in laser solid freeform fabrication using a feedforward PID controller. International Journal of Advanced Manufacturing Technology, 2007, 35, 280-292.	3.0	110
5	Model Predictive Control for integrated lateral stability, traction/braking control, and rollover prevention of electric vehicles. Vehicle System Dynamics, 2020, 58, 49-73.	3.7	105
6	An optimal torque distribution control strategy for four-independent wheel drive electric vehicles. Vehicle System Dynamics, 2015, 53, 1172-1189.	3.7	103
7	Real-time control of microstructure in laser additive manufacturing. International Journal of Advanced Manufacturing Technology, 2016, 82, 1173-1186.	3.0	95
8	A hybridized electromagnetic-triboelectric self-powered sensor for traffic monitoring: concept, modelling, and optimization. Nano Energy, 2017, 32, 105-116.	16.0	87
9	A Novel Local Motion Planning Framework for Autonomous Vehicles Based on Resistance Network and Model Predictive Control. IEEE Transactions on Vehicular Technology, 2020, 69, 55-66.	6.3	79
10	Optimization of Actuator Forces in Cable-Based Parallel Manipulators Using Convex Analysis. IEEE Transactions on Robotics, 2008, 24, 736-740.	10.3	78
11	Tire Condition Monitoring and Intelligent Tires Using Nanogenerators Based on Piezoelectric, Electromagnetic, and Triboelectric Effects. Advanced Materials Technologies, 2019, 4, 1800105.	5.8	57
12	Double Deep Reinforcement Learning-Based Energy Management for a Parallel Hybrid Electric Vehicle With Engine Start/Stop Strategy. IEEE Transactions on Transportation Electrification, 2022, 8, 1376-1388.	7.8	56
13	State-of-Charge Estimation Using an EKF-Based Adaptive Observer. IEEE Transactions on Control Systems Technology, 2019, 27, 1907-1923.	5.2	48
14	Integrated model predictive and torque vectoring control for path tracking of 4-wheel-driven autonomous vehicles. IET Intelligent Transport Systems, 2019, 13, 98-107.	3.0	47
15	Design, Kinematics, and Control of a Multijoint Soft Inflatable Arm for Human-Safe Interaction. IEEE Transactions on Robotics, 2017, 33, 594-609.	10.3	45
16	Proximity based automatic data annotation for autonomous driving. IEEE/CAA Journal of Automatica Sinica, 2020, 7, 395-404.	13.1	43
17	Holistic Adaptive Multi-Model Predictive Control for the Path Following of 4WID Autonomous Vehicles. IEEE Transactions on Vehicular Technology, 2021, 70, 69-81.	6.3	40
18	Stability and optimised control of tripped and untripped vehicle rollover. Vehicle System Dynamics, 2016, 54, 1405-1427.	3.7	36

#	ARTICLE	IF	CITATIONS
19	A Triboelectric Self-Powered Sensor for Tire Condition Monitoring: Concept, Design, Fabrication, and Experiments. <i>Advanced Engineering Materials</i> , 2017, 19, 1700318.	3.5	36
20	A new pneumatic suspension system with independent stiffness and ride height tuning capabilities. <i>Vehicle System Dynamics</i> , 2012, 50, 1735-1746.	3.7	35
21	Decoupled modeling and model predictive control of a hybrid cable-driven robot (HCDR). <i>Robotics and Autonomous Systems</i> , 2019, 118, 1-12.	5.1	35
22	Development of a vehicle-track model assembly and numerical method for simulation of wheel-rail dynamic interaction due to unsupported sleepers. <i>Vehicle System Dynamics</i> , 2010, 48, 1535-1552.	3.7	33
23	Ethical Decision Making in Autonomous Vehicles: Challenges and Research Progress. <i>IEEE Intelligent Transportation Systems Magazine</i> , 2022, 14, 6-17.	3.8	33
24	Tire Force Estimation in Intelligent Tires Using Machine Learning. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2022, 23, 3565-3574.	8.0	33
25	Multi-axle/articulated bus dynamics modeling: a reconfigurable approach. <i>Vehicle System Dynamics</i> , 2018, 56, 1315-1343.	3.7	32
26	A combined-slip predictive control of vehicle stability with experimental verification. <i>Vehicle System Dynamics</i> , 2018, 56, 319-340.	3.7	32
27	Cooperative Vehicle Speed Fault Diagnosis and Correction. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2019, 20, 783-789.	8.0	31
28	Vehicle Stability Control: Model Predictive Approach and Combined-Slip Effect. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020, 25, 2789-2800.	5.8	31
29	Graph Theoretic Approach to the Robustness of k -Nearest Neighbor Vehicle Platoons. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2017, 18, 3218-3224.	8.0	30
30	Development of Embedded Fiber-Optic Evanescent Wave Sensors for Optical Characterization of Graphite Anodes in Lithium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 41284-41290.	8.0	30
31	Reconfigurable Integrated Stability Control for Four- and Three-wheeled Urban Vehicles With Flexible Combinations of Actuation Systems. <i>IEEE/ASME Transactions on Mechatronics</i> , 2018, 23, 2031-2041.	5.8	30
32	Integrated Crash Avoidance and Mitigation Algorithm for Autonomous Vehicles. <i>IEEE Transactions on Industrial Informatics</i> , 2021, 17, 7246-7255.	11.3	30
33	Modelling and optimal energy-saving control of automotive air-conditioning and refrigeration systems. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2017, 231, 291-309.	1.9	29
34	A comprehensive study on the stability analysis of vehicle dynamics with pure/combined-slip tyre models. <i>Vehicle System Dynamics</i> , 2016, 54, 1736-1761.	3.7	28
35	Real-time estimation of the road bank and grade angles with unknown input observers. <i>Vehicle System Dynamics</i> , 2017, 55, 648-667.	3.7	28
36	A Probabilistic Model for Driving-Style-Recognition-Enabled Driver Steering Behaviors. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2022, 52, 1838-1851.	9.3	28

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37	Fault Tolerant Consensus for Vehicle State Estimation: A Cyber-Physical Approach. IEEE Transactions on Industrial Informatics, 2019, 15, 5129-5138.	11.3	27
38	Model predictive rollover prevention for steer-by-wire vehicles with a new rollover index. International Journal of Control, 2020, 93, 140-155.	1.9	27
39	Estimation of longitudinal speed robust to road conditions for ground vehicles. Vehicle System Dynamics, 2016, 54, 1120-1146.	3.7	26
40	State of Health Estimation of Lithium-Ion Batteries in Electric Vehicles under Dynamic Load Conditions. Energies, 2022, 15, 1234.	3.1	24
41	Application of Lexicographic Optimization Method to Integrated Vehicle Control Systems. IEEE Transactions on Industrial Electronics, 2018, 65, 9677-9686.	7.9	23
42	Model predictive-based tractor-trailer stabilisation using differential braking with experimental verification. Vehicle System Dynamics, 2021, 59, 1190-1213.	3.7	23
43	A flexible tube-based triboelectric-electromagnetic sensor for knee rehabilitation assessment. Sensors and Actuators A: Physical, 2018, 279, 694-704.	4.1	22
44	Optimal Configuration for Electromagnets and Coils in Magnetic Actuators. IEEE Transactions on Magnetics, 2013, 49, 1372-1381.	2.1	21
45	Hybrid variable damping control: design, simulation, and optimization. Microsystem Technologies, 2014, 20, 1723-1732.	2.0	21
46	Multiaxis Reaction System (MARS) for Vibration Control of Planar Cable-Driven Parallel Robots. IEEE Transactions on Robotics, 2019, 35, 1039-1046.	10.3	21
47	Torque-Vectoring-Based Vehicle Control Robust to Driver Uncertainties. IEEE Transactions on Vehicular Technology, 2015, 64, 3359-3367.	6.3	20
48	Visual-Attribute-Based Emotion Regulation of Angry Driving Behaviors. IEEE Intelligent Transportation Systems Magazine, 2022, 14, 10-28.	3.8	20
49	A Novel Combined Decision and Control Scheme for Autonomous Vehicle in Structured Road Based on Adaptive Model Predictive Control. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 16083-16097.	8.0	20
50	A comparative study of equivalent modelling for multi-axle vehicle. Vehicle System Dynamics, 2018, 56, 443-460.	3.7	19
51	A Reconfigurable Integrated Control for Narrow Tilting Vehicles. IEEE Transactions on Vehicular Technology, 2019, 68, 234-244.	6.3	19
52	Acclimatizing the Operational Design Domain for Autonomous Driving Systems. IEEE Intelligent Transportation Systems Magazine, 2022, 14, 10-24.	3.8	19
53	Boundary feedback stabilisation of a flexible robotic manipulator with constraint. International Journal of Control, 2016, 89, 635-651.	1.9	17
54	Study of Hydraulic Steering Process for Articulated Heavy Vehicles Based on the Principle of the Least Resistance. IEEE/ASME Transactions on Mechatronics, 2019, 24, 1662-1673.	5.8	17

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55	Mixed local motion planning and tracking control framework for autonomous vehicles based on model predictive control. IET Intelligent Transport Systems, 2019, 13, 950-959.	3.0	17
56	Comparative study on the economy of hybrid mining trucks for open-pit mining. IET Intelligent Transport Systems, 2019, 13, 201-208.	3.0	15
57	Lateral Force Prediction Using Gaussian Process Regression for Intelligent Tire Systems. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 5332-5343.	9.3	14
58	Research on a Novel Hydraulic/Electric Synergy Bus. Energies, 2018, 11, 34.	3.1	13
59	A Review on Vehicle-Trailer State and Parameter Estimation. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 5993-6010.	8.0	12
60	Planar Variable Structure Cable-Driven Parallel Robots for Circumventing Obstacles. Journal of Mechanisms and Robotics, 2021, 13, .	2.2	12
61	A novel approach for the design and analysis of nonlinear dampers for automotive suspensions. JVC/Journal of Vibration and Control, 2018, 24, 3132-3147.	2.6	11
62	A Reaction-Based Stabilizer for Nonmodel-Based Vibration Control of Cable-Driven Parallel Robots. IEEE Transactions on Robotics, 2021, 37, 667-674.	10.3	11
63	Development of Integrative Methodologies for Effective Excavation Progress Monitoring. Sensors, 2021, 21, 364.	3.8	11
64	Dynamic response of a vehicle with planar suspension system (PSS) under differential braking. Vehicle System Dynamics, 2012, 50, 19-41.	3.7	10
65	A novel tripped rollover prevention system for commercial trucks with air suspensions at low speeds. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2018, 232, 1516-1527.	1.9	10
66	Sliding Mode Control of Laterally Interconnected Air Suspensions. Applied Sciences (Switzerland), 2020, 10, 4320.	2.5	10
67	Wrench Feasibility and Workspace Expansion of Planar Cable-Driven Parallel Robots by a Novel Passive Counterbalancing Mechanism. IEEE Transactions on Robotics, 2021, 37, 935-947.	10.3	10
68	Creep and Fatigue Failure in Single- and Double Hot Arm MEMS Thermal Actuators. Journal of Failure Analysis and Prevention, 2009, 9, 159-170.	0.9	9
69	Spiral bacterial foraging optimization method: Algorithm, evaluation and convergence analysis. Engineering Optimization, 2014, 46, 439-464.	2.6	9
70	Fiber optic monitoring of lithium-ion batteries: A novel tool to understand the lithiation of batteries. , 2016, , .		9
71	Wheel Modules With Distributed Controllers: A Multi-Agent Approach to Vehicular Control. IEEE Transactions on Vehicular Technology, 2020, 69, 10879-10888.	6.3	9
72	Ride quality evaluation of a vehicle with a planar suspension system. Vehicle System Dynamics, 2012, 50, 395-413.	3.7	8

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73	Vehicle yaw stability control using active rear steering: Development and experimental validation. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2017, 231, 333-345.	0.8	8
74	Local Path Planning for Autonomous Vehicles: Crash Mitigation. , 2018, , .		8
75	Modeling, tracking, vibration and balance control of an underactuated mobile manipulator (UMM). Control Engineering Practice, 2019, 93, 104159.	5.5	8
76	Vehicle dynamics control using an active third-axle system. Vehicle System Dynamics, 2014, 52, 1541-1562.	3.7	7
77	Optimal actuator placement for vibration control of a planar cable-driven robotic manipulator. , 2016, , .		7
78	Resilient Corner-Based Vehicle Velocity Estimation. IEEE Transactions on Control Systems Technology, 2018, 26, 452-462.	5.2	7
79	Vehicle-trailer lateral velocity estimation using constrained unscented transformation. Vehicle System Dynamics, 2022, 60, 1048-1075.	3.7	7
80	Hitch Angle Estimation of a Towing Vehicle With Arbitrary Configuration. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 7535-7546.	8.0	7
81	Agent-Based Model Predictive Controller (AMPC) for Flexible and Efficient Vehicular Control. IEEE Transactions on Vehicular Technology, 2021, 70, 9877-9885.	6.3	7
82	Real-Time Road Bank Estimation With Disturbance Observers for Vehicle Control Systems. IEEE Transactions on Control Systems Technology, 2022, 30, 443-450.	5.2	7
83	Multi- ϵ model adaptive predictive control for path following of autonomous vehicles. IET Intelligent Transport Systems, 2020, 14, 2092-2101.	3.0	7
84	A passive mechanism for thermal stress regulation in micro-machined beam-type structures. Microsystem Technologies, 2012, 18, 543-556.	2.0	6
85	H-Infinity Shifting Control in a Dual-Speed Transmission for Electric Vehicle. International Journal of Automotive Technology, 2021, 22, 155-164.	1.4	6
86	A coupled force predictive control of vehicle stability using front/rear torque allocation with experimental verification. Vehicle System Dynamics, 2022, 60, 2541-2563.	3.7	6
87	Integrated Lateral and Roll Stability Control of Multi-Actuated Vehicles Using Prioritization Model Predictive Control. IEEE Transactions on Vehicular Technology, 2022, 71, 8318-8329.	6.3	6
88	Spiral Bacterial Foraging Optimization method. , 2010, , .		5
89	An integrated vehicle dynamic control strategy for three-wheeled vehicles. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2015, 229, 225-244.	0.8	5
90	Developing an active variable-wheelbase system for enhancing the vehicle dynamics. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2017, 231, 1640-1659.	1.9	5

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91	Dimensionless Model-Based System Tracking Via Augmented Kalman Filter for Multiscale Unmanned Ground Vehicles. IEEE/ASME Transactions on Mechatronics, 2021, 26, 600-610.	5.8	5
92	Efficient Driver Anomaly Detection via Conditional Temporal Proposal and Classification Network. IEEE Transactions on Computational Social Systems, 2023, 10, 736-745.	4.4	5
93	Data-Driven Tire Capacity Estimation With Experimental Verification. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 21569-21581.	8.0	5
94	Controller development using optimal torque distribution for driver handling assistance. , 2012, , .		4
95	A new optimal driver command interpreter for vehicle dynamics control. , 2014, , .		4
96	Distributed robust vehicle state estimation. , 2017, , .		4
97	A new coordinated control strategy for tracked vehicle ride comfort. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2018, 232, 330-341.	0.8	4
98	Cross Validation for CNN based Affordance Learning and Control for Autonomous Driving. , 2019, , .		4
99	Development of Sensing Algorithms for Object Tracking and Predictive Safety Evaluation of Autonomous Excavators. Applied Sciences (Switzerland), 2021, 11, 6366.	2.5	4
100	Redundancy Resolution and Disturbance Rejection via Torque Optimization in Hybrid Cable-Driven Robots. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 4069-4079.	9.3	4
101	Tabular Learning-Based Traffic Event Prediction for Intelligent Social Transportation System. IEEE Transactions on Computational Social Systems, 2023, 10, 1199-1210.	4.4	4
102	Study on laser parameters effect on morphology of in-situ Fe-TiC particles deposition on mild steel using laser cladding process. , 2010, , .		3
103	Design and control of a narrow electric vehicle. , 2012, , .		3
104	Comprehensive Online Control Strategies for Plastic Injection Molding Process. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2014, 136, .	2.2	3
105	Enhanced electric vehicle efficiency via wheel torque redistribution. , 2014, , .		3
106	Design of a Regenerative Auxiliary Power System for Service Vehicles. Automotive Innovation, 2018, 1, 62-69.	5.1	3
107	Accident Prediction in Mesoscopic View: A CPSS-Based Social Transportation Approach. , 2021, , .		3
108	Road angle estimation for a vehicle-trailer with machine learning and system model-based approaches. Vehicle System Dynamics, 2022, 60, 3583-3604.	3.7	3

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109	An Intelligent Control of Electronic Limited Slip Differential for Improving Vehicle Yaw Stability. IEEE Transactions on Vehicular Technology, 2021, 70, 8669-8681.	6.3	3
110	A New Topology Optimization Method for Multi-physics Micro Domains. , 2008, , .		2
111	Correlation between temperature distribution and formed microstructure of in-situ laser cladding of Fe-TiC on carbon steel. , 2010, , .		2
112	Blend of independent joint control and variable structure systems for uni-drive modular robots. Robotica, 2010, 28, 149-159.	1.9	2
113	Total dynamic response of a PSS vehicle negotiating asymmetric road excitations. Vehicle System Dynamics, 2012, 50, 1835-1859.	3.7	2
114	Thermal management in laminated die system. International Journal of Control, Automation and Systems, 2014, 12, 794-804.	2.7	2
115	MIMO regulation control design for magnetic steering of a ferromagnetic particle inside a fluidic environment. International Journal of Control, 2015, 88, 1942-1962.	1.9	2
116	Guest Editorial Focused Section on Mechatronics in Cyber-Physical Systems. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2533-2536.	5.8	2
117	A modified sliding-mode observer design with application to diffusion equation. International Journal of Control, 2019, 92, 2369-2382.	1.9	2
118	Slip Ratio Optimization in Vehicle Safety Control Systems Using Least-Squares Based Adaptive Extremum Seeking. , 2020, , .		2
119	Estimation of Vehicle-Trailer Hitch-Forces and Lateral Tire Forces Independent of Trailer Type and Geometry. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2022, , .	1.6	2
120	Direct laser deposited titanium with controlled porosity for bone tissue engineering. , 2008, , .		1
121	Application of level set method to the design of mechanical components with a desired multi-dimensional stiffness. Vehicle System Dynamics, 2011, 49, 75-86.	3.7	1
122	Vehicle yaw dynamics control using Pulsed Active Rear Steering. , 2014, , .		1
123	Comparison of nozzle gas shielding techniques for laser cladding of zirconium. , 2015, , .		1
124	Hysteresis in PDE model of a Li-ion battery. , 2016, , .		1
125	Fuzzy control strategy for a tri-energy hybrid bus. , 2017, , .		1
126	Diamond reinforced metal coating using automated laser fabrication. , 2007, , .		0

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127	A Fully Coupled Finite Element Formulation for Multi-Physics Micro Domains. , 2008, , .		0
128	A structurally multifunctional pressure-temperature sensor. , 2009, , .		0
129	Kernel Point Non-local Networks for LiDAR Semantic Segmentation. , 2021, , .		0
130	Agent-Based Model Predictive Controller (AMPC) for Vehicular Stability With Experimental Results. IEEE Transactions on Vehicular Technology, 2022, 71, 7104-7112.	6.3	0