Weihua Sheng

List of Publications by Year
in descending order

200 papers	3,439 citations	218592 26 h-index	206029 48 g-index
200 all docs	200 docs citations	200 times ranked	3425 citing authors

#	Article	IF	Citations
1	Distributed multi-robot coordination in area exploration. Robotics and Autonomous Systems, 2006, 54, 945-955.	3.0	182
2	Wearable Sensor-Based Hand Gesture and Daily Activity Recognition for Robot-Assisted Living. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2011, 41, 569-573.	3.4	182
3	A Robotic Crack Inspection and Mapping System for Bridge Deck Maintenance. IEEE Transactions on Automation Science and Engineering, 2014, 11, 367-378.	3.4	148
4	RiSH: A robot-integrated smart home for elderly care. Robotics and Autonomous Systems, 2018, 101, 74-92.	3.0	120
5	Cooperative and Active Sensing in Mobile Sensor Networks for Scalar Field Mapping. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2015, 45, 1-12.	5.9	118
6	Distributed Sensor Fusion for Scalar Field Mapping Using Mobile Sensor Networks. IEEE Transactions on Cybernetics, 2013, 43, 766-778.	6.2	114
7	Delivering home healthcare through a Cloud-based Smart Home Environment (CoSHE). Future Generation Computer Systems, 2018, 81, 129-140.	4.9	109
8	Multirobot Cooperative Learning for Predator Avoidance. IEEE Transactions on Control Systems Technology, 2015, 23, 52-63.	3.2	105
9	Real-time detection of distracted driving based on deep learning. IET Intelligent Transport Systems, 2018, 12, 1210-1219.	1.7	95
10	Motion- and location-based online human daily activity recognition. Pervasive and Mobile Computing, 2011, 7, 256-269.	2.1	88
11	Wearable Sensor-Based Behavioral Anomaly Detection in Smart Assisted Living Systems. IEEE Transactions on Automation Science and Engineering, 2015, 12, 1225-1234.	3.4	79
12	Human daily activity recognition in robot-assisted living using multi-sensor fusion. , 2009, , .		68
13	Passive Infrared (PIR)-Based Indoor Position Tracking for Smart Homes Using Accessibility Maps and A-Star Algorithm. Sensors, 2018, 18, 332.	2.1	58
14	Dynamic target tracking and observing in a mobile sensor network. Robotics and Autonomous Systems, 2012, 60, 996-1009.	3.0	57
15	An Integrated Framework for Human–Robot Collaborative Manipulation. IEEE Transactions on Cybernetics, 2015, 45, 2030-2041.	6.2	56
16	Human gesture recognition through a Kinect sensor. , 2012, , .		55
17	Exponential H_∞ Synchronization and State Estimation for Chaotic Systems Via a Unified Model. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1114-1126.	7.2	55
18	Tool Path Planning for Compound Surfaces in Spray Forming Processes. IEEE Transactions on Automation Science and Engineering, 2005, 2, 240-249.	3.4	52

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19	CADâ€based automated robot trajectory planning for spray painting of freeâ€form surfaces. Industrial Robot, 2002, 29, 426-433.	1.2	48
20	Realtime Recognition of Complex Human Daily Activities Using Human Motion and Location Data. IEEE Transactions on Biomedical Engineering, 2012, 59, 2422-2430.	2.5	46
21	Using human motion estimation for human-robot cooperative manipulation. , 2011, , .		45
22	A Hidden Markov Model based driver intention prediction system. , 2015, , .		42
23	Robot Path Integration in Manufacturing Processes: Genetic Algorithm Versus Ant Colony Optimization. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2008, 38, 278-287.	3.4	41
24	General Framework of Optimal Tool Trajectory Planning for Free-Form Surfaces in Surface Manufacturing. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2005, 127, 49-59.	1.3	40
25	Automated robot trajectory planning for spray painting of free-form surfaces in automotive manufacturing. , 0, , .		39
26	Flocking control of a mobile sensor network to track and observe a moving target. , 2009, , .		36
27	Convolutional Neural Network-Based Embarrassing Situation Detection under Camera for Social Robot in Smart Homes. Sensors, 2018, 18, 1530.	2.1	35
28	Multi-sensor fusion for human daily activity recognition in robot-assisted living. , 2009, , .		34
29	A Human-Vehicle Collaborative Driving Framework for Driver Assistance. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 3470-3485.	4.7	34
30	CAD-guided sensor planning for dimensional inspection in automotive manufacturing. IEEE/ASME Transactions on Mechatronics, 2003, 8, 372-380.	3.7	32
31	Transformative CAD based industrial robot program generation. Robotics and Computer-Integrated Manufacturing, 2011, 27, 942-948.	6.1	32
32	A Sensor Fusion Approach to Indoor Human Localization Based on Environmental and Wearable Sensors. IEEE Transactions on Automation Science and Engineering, 2019, 16, 339-350.	3.4	32
33	Adaptive flocking control for dynamic target tracking in mobile sensor networks. , 2009, , .		30
34	Driver drowsiness detection through HMM based dynamic modeling. , 2014, , .		27
35	Automated assembly skill acquisition and implementation through human demonstration. Robotics and Autonomous Systems, 2018, 99, 1-16.	3.0	27
36	Developing a crack inspection robot for bridge maintenance. , 2011, , .		26

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37	Automated CAD-guided robot path planning for spray painting of compound surfaces. , 0, , .		25
38	Detection of privacy-sensitive situations for social robots in smart homes. , 2016, , .		25
39	Indoor human localization using PIR sensors and accessibility map. , 2015, , .		23
40	Multiple stream deep learning model for human action recognition. Image and Vision Computing, 2020, 93, 103818.	2.7	21
41	Recognizing human daily activity using a single inertial sensor. , 2010, , .		20
42	Robot semantic mapping through human activity recognition: A wearable sensing and computing approach. Robotics and Autonomous Systems, 2015, 68, 47-58.	3.0	20
43	Robot Path Planning for Dimensional Measurement in Automotive Manufacturing. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2005, 127, 420-428.	1.3	18
44	Mobile Sensor Networks Self Localization based on Multi-dimensional Scaling. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	18
45	Global Trajectory Generation for Nonholonomic Robots in Dynamic Environments. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	18
46	Navigating a Miniature Crawler Robot for Engineered Structure Inspection. IEEE Transactions on Automation Science and Engineering, 2008, 5, 368-373.	3.4	18
47	An open platform telepresence robot with natural human interface. , 2013, , .		18
48	Real-time Detection of Distracted Driving using Dual Cameras. , 2020, , .		18
49	<inline-formula> <tex-math notation="TeX">${m H}_{infty}$ </tex-math></inline-formula> Output Tracking Control of Discrete-Time Nonlinear Systems via Standard Neural Network Models. IEEE Transactions on Neural Networks and Learning Systems, 2014, 25, 1928-1935.	7.2	17
50	Clinical Screening Interview Using a Social Robot for Geriatric Care. IEEE Transactions on Automation Science and Engineering, 2021, 18, 1229-1242.	3.4	17
51	Multi-Agent Motion Control in Cluttered and Noisy Environments. Journal of Communications, 2013, 8, 32-46.	1.3	17
52	Automated CAD-guided automobile part dimensional inspection. , 0, , .		16
53	Robot semantic mapping through wearable sensor-based human activity recognition. , 2012, , .		16
54	An Approach for Brain-Controlled Prostheses Based on a Facial Expression Paradigm. Frontiers in Neuroscience, 2018, 12, 943.	1.4	16

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55	A general framework for automatic CAD-guided tool planning for surface manufacturing. , 0, , .		15
56	Imitation learning of hand gestures and its evaluation for humanoid robots. , 2010, , .		15
57	Distributed Multi-Actuator Control for Workload Balancing in Wireless Sensor and Actuator Networks. IEEE Transactions on Automatic Control, 2011, 56, 2462-2467.	3.6	15
58	Development of a Small-Scale Research Platform for Intelligent Transportation Systems. IEEE Transactions on Intelligent Transportation Systems, 2012, 13, 1753-1762.	4.7	15
59	Cloud-Based Smart Home Environment (CoSHE) for home healthcare. , 2016, , .		15
60	Design and Evaluation of a Teleoperated Robotic 3-D Mapping System using an RGB-D Sensor. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2016, 46, 718-724.	5.9	15
61	CADâ€guided robot motion planning. Industrial Robot, 2001, 28, 143-152.	1.2	14
62	Rigidity guided localisation for mobile robotic sensor networks. International Journal of Ad Hoc and Ubiquitous Computing, 2010, 6, 114.	0.3	14
63	Estimation of hand force from surface Electromyography signals using Artificial Neural Network. , 2012, , .		14
64	Real-time photo-realistic 3D mapping for micro aerial vehicles. , 2011, , .		14
65	Cooperative Driving based on Inter-vehicle Communications: Experimental Platform and Algorithm. , 2006, , .		13
66	Observer-based l_2-l_∞ control for discrete-time nonhomogeneous Markov jump Lur×³e systems with sensor saturations. Neurocomputing, 2015, 162, 141-149.	3.5	13
67	A driver assistance framework based on driver drowsiness detection. , 2016, , .		13
68	Human-assisted sound event recognition for home service robots. Robotics and Biomimetics, 2016, 3, 7.	1.7	13
69	Negative Emotion Management Using a Smart Shirt and a Robot Assistant. IEEE Robotics and Automation Letters, 2021, 6, 4040-4047.	3.3	13
70	Conversation-Based Medication Management System for Older Adults Using a Companion Robot and Cloud. IEEE Robotics and Automation Letters, 2021, 6, 2698-2705.	3.3	13
71	Distributed multi-robot work load partition in manufacturing automation. , 2008, , .		12
72	Registration of Point Clouds for 3D Shape Inspection. , 2006, , .		11

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73	Moving targets tracking and observing in a distributed mobile sensor network. , 2009, , .		11
74	Imitation learning of arm gestures in presence of missing data for humanoid robots. , 2010, , .		11
75	Cooperative flocking and learning in multi-robot systems for predator avoidance. , 2013, , .		11
76	Human aware UAS path planning in urban environments using nonstationary MDPs. , 2014, , .		11
77	Human localization and tracking using distributed motion sensors and an inertial measurement unit. , 2015, , .		11
78	Multiple vehicle systems for sensor network area coverage. , 0, , .		10
79	Optimal tool path planning for compound surfaces in spray forming processes. , 2004, , .		9
80	Online hand gesture recognition using neural network based segmentation. , 2009, , .		9
81	AutoHydrate: A wearable hydration monitoring system. , 2016, , .		9
82	Cognitive orientation assessment for older adults using social robots. , 2017, , .		9
83	SoHAM: A Sound-Based Human Activity Monitoring Framework for Home Service Robots. IEEE Transactions on Automation Science and Engineering, 2022, 19, 2369-2383.	3.4	9
84	Peer-to-peer multi-robot coordination algorithms: petri net based analysis and design. , 0, , .		8
85	Development of dynamic inspection methods for dimensional measurement of automotive body parts. , 0, , .		8
86	Human intention recognition in Smart Assisted Living Systems using a Hierarchical Hidden Markov Model. , 2008, , .		8
87	Flocking control of multiple agents in noisy environments. , 2010, , .		8
88	An integrated manual and autonomous driving framework based on driver drowsiness detection. , 2013, , .		8
89	A Human–Robot Collaborative System for Robust Three-Dimensional Mapping. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2358-2368.	3.7	8
90	Wearable sensors based human intention recognition in smart assisted living systems. , 2008, , .		7

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91	Human-robot collaborative manipulation through imitation and reinforcement learning. , 2011, , .		7
92	Transformative industrial robot programming in surface manufacturing. , 2011, , .		7
93	Cooperative and active sensing in mobile sensor networks for scalar field mapping. , 2013, , .		7
94	H âˆž synchronization of two different discrete-time chaotic systems via a unified model. International Journal of Control, Automation and Systems, 2015, 13, 212-221.	1.6	7
95	Human-guided robot 3D mapping using virtual reality technology. , 2016, , .		7
96	Context-aware sound event recognition for home service robots. , 2016, , .		7
97	Humanâ€"Robot Collaborative Control in a Virtual-Reality-Based Telepresence System. International Journal of Social Robotics, 2021, 13, 1295-1306.	3.1	7
98	Collaborative Fall Detection using a Wearable Device and a Companion Robot. , 2021, , .		7
99	Realtime human daily activity recognition through fusion of motion and location data. , 2010, , .		6
100	Decentralized flocking control with a minority of informed agents. , 2011, , .		6
101	Real-time loop detection with bags of binary words. , 2011, , .		6
102	Fine manipulative action recognition through sensor fusion. , 2015, , .		6
103	Collision probability computation based on vehicle to vehicle communication. , 2015, , .		6
104	Human intention-based collision avoidance for autonomous cars. , 2017, , .		6
105	Facial Expression Recognition and Positive Emotion Incentive System for Human-Robot Interaction. , 2018, , .		6
106	Sensor fusion based manipulative action recognition. Autonomous Robots, 2021, 45, 1-13.	3.2	6
107	A Dynamic MDS-Based Localization Algorithm for Mobile Sensor Networks. , 2006, , .		5
108	Recursive Measurement Process for Improving Accuracy of Dimensional Inspection of Automotive Body Parts. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	5

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109	Human activity recognition via motion and vision data fusion. , 2010, , .		5
110	Development and evaluation of a compact motion sensor node for wearable computing. , 2010, , .		5
111	Cooperative sensing in mobile sensor networks based on distributed consensus. Proceedings of SPIE, 2011, , .	0.8	5
112	Realtime recognition of complex daily activities using dynamic Bayesian network. , 2011, , .		5
113	Human action recognition with contextual constraints using a RGB-D sensor. , 2013, , .		5
114	Automated assembly skill acquisition through human demonstration. , 2014, , .		5
115	Video analysis for traffic anomaly detection using support vector machines. , 2014, , .		5
116	Indoor human tracking and state estimation by fusing environmental sensors and wearable sensors. , 2015, , .		5
117	Implementation of Sobel Edge Detection on FPGA based on OpenCL. , 2017, , .		5
118	Real-time Facial Expression Recognition on Robot for Healthcare. , 2018, , .		5
119	Perceptions of socially assistive robots: A pilot study exploring older adults' concerns. Current Psychology, 2023, 42, 2145-2156.	1.7	5
120	Multi-style learning for adaptation of perception intelligence in home service robots. Pattern Recognition Letters, 2021, 151, 243-251.	2.6	5
121	Optimizing material distribution for tool trajectory generation in surface manufacturing. , 0, , .		4
122	Optimal Planning of a Mobile Sensor for Aircraft Rivet Inspection. , 0, , .		4
123	Development and calibration of a low cost wireless camera sensor network. , 2009, , .		4
124	A small-scale research platform for intelligent transportation systems. , 2011, , .		4
125	Human-like indoor navigation for Autonomous Industrial Mobile Manipulator. , 2012, , .		4
126	Guest Editorial Special Section on Home Automation. IEEE Transactions on Automation Science and Engineering, 2015, 12, 1155-1156.	3.4	4

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127	An open platform of auditory perception for home service robots. , 2015, , .		4
128	Proactive MDP-based collision avoidance algorithm for autonomous cars. , 2015, , .		4
129	Robust object detection by cuboid matching with local plane optimization in indoor RGB-D images. , 2017, , .		4
130	Depth MHI Based Deep Learning Model for Human Action Recognition. , 2018, , .		4
131	Optimization in automated surface inspection of stamped automotive parts. , 0, , .		3
132	Mobile Sensor Navigation with Miniature Active Camera for Structure Inspection. , 2006, , .		3
133	Robot Workload Distribution in Active Sensor Networks. , 2007, , .		3
134	Distributed calibration of a camera sensor network. , 2009, , .		3
135	Robust adaptive control with leakage modification for a nonlinear model of Ionic Polymer Metal Composites (IPMC). , 2009, , .		3
136	A Miniature Smart Home Testbed for Research and Education. , 2017, , .		3
137	Comparison and Analysis of Feature Method and Direct Method in Visual SLAM Technology for Social Robots. , 2018, , .		3
138	Home Assistant-Based Collaborative Framework of Multi-Sensor Fusion for Social Robot. , 2018, , .		3
139	Online Reconstruction of Indoor Scenes With Local Manhattan Frame Growing. , 2019, , .		3
140	Using human motion estimation for human-robot cooperative manipulation. , 2011, , .		3
141	Cloud-assisted cognition adaptation for service robots in changing home environments. Frontiers of Information Technology and Electronic Engineering, 2022, 23, 246-257.	1.5	3
142	Viewpoint reduction in vision sensor planning for dimensional inspection. , 0, , .		2
143	Efficient map synchronization in ad hoc mobile robot networks for environment exploration. , 2005, , .		2
144	Tool path integration for spray forming processes using a genetic algorithm. , 0, , .		2

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145	Developing Active Sensor Networks with Micro Mobile Robots. , 2006, , .		2
146	Viewpoint planning for automated 3D digitization using a low-cost mobile platform. , 2009, , .		2
147	An efficient planning method for mobile robot based 3D digitization. , 2010, , .		2
148	A cost-effective and open mobile sensor platform for networked surveillance. Proceedings of SPIE, 2011, , .	0.8	2
149	Improving 3D indoor mapping with motion data. , 2012, , .		2
150	Human-robot collaboration in a Mobile Visual Sensor Network. , 2014, , .		2
151	A collaborative control framework for driver assistance systems. , 2017, , .		2
152	Deep learning-based human head detection and extraction for robotic portrait drawing. , 2017, , .		2
153	Retrieval of Misplaced Items Using a Mobile Robot via Visual Object Recognition. , 2017, , .		2
154	Measurement Of Latency On Visual Feedback In an Immersive Telepresence Robotic System. , 2018, , .		2
155	Dual Graphical Models for Relational Modeling of Indoor Object Categories. , 2019, , .		2
156	Real-time photo-realistic 3D mapping for micro aerial vehicles. , 2011, , .		2
157	Flocking Control Algorithms for Multiple Agents in Cluttered and Noisy Environments. Studies in Computational Intelligence, 2011, , 53-79.	0.7	2
158	ManhattanFusion: Online Dense Reconstruction of Indoor Scenes From Depth Sequences. IEEE Transactions on Visualization and Computer Graphics, 2022, 28, 2668-2681.	2.9	2
159	Graph-based surface merging in CAD-guided dimensional inspection of automotive parts. , 0, , .		1
160	Part geometric understanding for tool path planning in additive manufacturing. , 0, , .		1
161	Coordination of multi-robot and human systems in a perceptive reference frame. International Journal of Vehicle Autonomous Systems, 2004, 2, 201.	0.2	1
162	Analysis of system performance for robotic spray forming process. , 2005, , .		1

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163	Motion planning in robotized sensor networks for aircraft rivet inspection. , 0, , .		1
164	Distributed Robot-assisted Node Localization in Active Sensor Networks. , 2006, , .		1
165	Dynamic localization of multiple mobile subjects in wireless Ad Hoc networks. , 2007, , .		1
166	A Problem Solving Environment for Combinatorial Optimization Based on Parallel Meta-heuristics. , 2007, , .		1
167	Multidimensional scaling based location calibration for Wireless Multimedia Sensor Networks. , 2010, , .		1
168	Energy aware adaptive clustering in wireless sensor networks. , 2011, , .		1
169	Localisation of multiple mobile subjects using multidimensional scaling and sensor fusion. International Journal of Ad Hoc and Ubiquitous Computing, 2012, 11, 214.	0.3	1
170	Active view planing for human observation through a RGB-D camera. , 2013, , .		1
171	A cloud based testbed for research and education in intelligent transportation system. , 2015, , .		1
172	Creating 3D Bounding Box Hypotheses From Deep Network Score-Maps. , 2019, , .		1
173	Online Manhattan Keyframe-based Dense Reconstruction from Indoor Depth Sequences. , 2019, , .		1
174	Motion and Location-Based Online Human Daily Activity Recognition. , 2013, , 304-321.		1
175	PIR Sensors Deployment with the Accessible Priority in Smart Home Using Genetic Algorithm. International Journal of Distributed Sensor Networks, 2015, 11, 146270.	1.3	1
176	Convolutional Neural Network Optimization Using Modified NSGA-II. , 2021, , .		1
177	Sensor planning with kinematics constraint for dimensional inspection of sheet metal parts. , 0, , .		0
178	NEAR-OPTIMAL-TIME PATH PLANNING IN CAD-GUIDED PART DIMENSIONAL INSPECTION. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 121-126.	0.4	0
179	Minimum viewpoint planning for dimensional inspection of sheet metal parts. , 0, , .		0
180	A unified model for design and VLSI implementation of robotic perceptive controller. , 0, , .		0

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181	Minimizing data exchange in ad hoc multi-robot networks. , 0, , .		0
182	Experimental testbed and distributed algorithm for cooperative driving in VII simulation. , 2006, , .		0
183	Ant Colony Optimization for Tool Path Integration in Spray Forming Processes. , 2006, , .		0
184	Adaptive Dynamic Localization for multiple mobile subjects tracking. , 2008, , .		0
185	Mobility assisted localization for robotic sensor networks. , 2009, , .		0
186	State estimation with missing measurements using IMM. , 2013, , .		0
187	Gating technique for the Gaussian mixture multi-Bernoulli filter. , 2014, , .		0
188	Locating license tags using edges. , 2016, , .		0
189	Game-theoretic Evolutionary Algorithm Based on Behavioral Expectation and its Performance Analysis. Applied Artificial Intelligence, 2017, 31, 493-517.	2.0	0
190	Research on Video-based Traffic Sign Recognition. , 2017, , .		0
191	Real-time volumetric reconstruction of Manhattan indoor scenes from depth sequences. , 2017, , .		0
192	Design of A Software Simulation Platform for Fault Diagnosis of Service Robot. , 2017, , .		0
193	Evaluation of P300-based BCI Using a Non-invasive Commercial EEG Sensor. , 2017, , .		0
194	Dynamic Gesture Recognition Algorithm based on ROI and CNN for Social Robots. , 2018, , .		0
195	Detection and Tracking of Moving Objects for Indoor Mobile Robots with a Low-Cost Laser Scanner. Lecture Notes in Computer Science, 2018, , 243-250.	1.0	0
196	Robot Path Planning for Human Search in Indoor Environments. Communications in Computer and Information Science, 2017, , 310-323.	0.4	0
197	Motion and Location-Based Online Human Daily Activity Recognition. , 2018, , 277-296.		0
198	Energy Consumption in a Collaborative Activity Monitoring System using a Companion Robot and a Wearable Device. , 2021, , .		0

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199	Tool path integration for spray forming processes using a genetic algorithm. , 0, , .		0
200	Realtime recognition of complex daily activities using dynamic Bayesian network. , 2011, , .		0