Zhijiang Du

List of Publications by Year
in descending order

120 papers	925 citations	623574 14 h-index	580701 25 g-index
120 all docs	120 docs citations	120 times ranked	929 citing authors

#	ARTICLE	IF	CITATIONS
1	Active disturbance rejection control based human gait tracking for lower extremity rehabilitation exoskeleton. ISA Transactions, 2017, 67, 389-397.	3.1	95
2	A Piezo-Actuated High-Precision Flexible Parallel Pointing Mechanism: Conceptual Design, Development, and Experiments. IEEE Transactions on Robotics, 2014, 30, 131-137.	7.3	69
3	Development of Search-and-rescue Robots for Underground Coal Mine Applications. Journal of Field Robotics, 2014, 31, 386-407.	3.2	56
4	Variable Admittance Control Based on Fuzzy Reinforcement Learning for Minimally Invasive Surgery Manipulator. Sensors, 2017, 17, 844.	2.1	43
5	Development and analysis of an electrically actuated lower extremity assistive exoskeleton. Journal of Bionic Engineering, 2017, 14, 272-283.	2.7	42
6	Design and Control of a Passive Compliant Piezo-Actuated Micro-Gripper With Hybrid Flexure Hinges. IEEE Transactions on Industrial Electronics, 2021, 68, 11168-11177.	5.2	33
7	Design and Evaluation of FBG-Based Tension Sensor in Laparoscope Surgical Robots. Sensors, 2018, 18, 2067.	2.1	31
8	Design and Kinematic Modeling of a Notch Continuum Manipulator for Laryngeal Surgery. International Journal of Control, Automation and Systems, 2020, 18, 2966-2973.	1.6	27
9	Dynamic Load Effect on Tracked Robot Obstacle Performance. , 2007, , .		21
10	A Novel Position Compensation Scheme for Cable-Pulley Mechanisms Used in Laparoscopic Surgical Robots. Sensors, 2017, 17, 2257.	2.1	21
11	Construction of Controller Model of Notch Continuum Manipulator for Laryngeal Surgery Based on Hybrid Method. IEEE/ASME Transactions on Mechatronics, 2021, 26, 1022-1032.	3.7	20
12	Round Trip Time Prediction Using Recurrent Neural Networks With Minimal Gated Unit. IEEE Communications Letters, 2019, 23, 584-587.	2.5	19
13	A Robot-Assisted Spine Surgery System Based on Intraoperative 2D Fluoroscopy Navigation. IEEE Access, 2020, 8, 51786-51802.	2.6	18
14	A Friction-Inertial-Based Rotary Motor: Design, Modelling and Experiments. Materials, 2018, 11, 918.	1.3	16
15	sEMG Based Control for 5 DOF Upper Limb Rehabilitation Robot System. , 2006, , .		14
16	Robust Radiation Sources Localization Based on the Peak Suppressed Particle Filter for Mixed Multi-Modal Environments. Sensors, 2018, 18, 3784.	2.1	14
17	Mechanism Design and Optimization of a Haptic Master Manipulator for Laparoscopic Surgical Robots. IEEE Access, 2019, 7, 147808-147824.	2.6	13
18	Obstacle Avoidance Path Planning of Planar Redundant Manipulators Using Workspace Density. International Journal of Advanced Robotic Systems, 2015, 12, 9.	1.3	12

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19	A new forecasting kinematic algorithm of automatic navigation for a laparoscopic minimally invasive surgical robotic system. Robotica, 2017, 35, 1192-1222.	1.3	12
20	Singularity Analysis for the Existing Closed-Form Solutions of the Hand-Eye Calibration. IEEE Access, 2018, 6, 75407-75421.	2.6	12
21	Hierarchical Human Machine Interaction Learning for a Lower Extremity Augmentation Device. International Journal of Social Robotics, 2019, 11, 123-139.	3.1	12
22	A PSO-Optimized Fuzzy Reinforcement Learning Method for Making the Minimally Invasive Surgical Arm Cleverer. IEEE Access, 2019, 7, 48655-48670.	2.6	12
23	A two-dimensional nano-positioner: Design, modelling and experiments. Robotics and Computer-Integrated Manufacturing, 2017, 48, 167-173.	6.1	11
24	Probabilistic Sensitivity Amplification Control for Lower Extremity Exoskeleton. Applied Sciences (Switzerland), 2018, 8, 525.	1.3	11
25	Intrinsic Sensing and Evolving Internal Model Control of Compact Elastic Module for a Lower Extremity Exoskeleton. Sensors, 2018, 18, 909.	2.1	11
26	A Novel Approach to Deriving the Unit-Homogeneous Jacobian Matrices of Mechanisms. , 2007, , .		9
27	Indoor dangerous gas environment detected by mobile robot. , 2009, , .		9
28	A new kinematics method based on a dynamic visual window for a surgical robot. Robotica, 2014, 32, 571-589.	1.3	9
29	An automated approach for machining allowance evaluation of casting parts. International Journal of Computer Integrated Manufacturing, 2019, 32, 1043-1052.	2.9	9
30	System Design and Monitoring Method of Robot Grinding for Friction Stir Weld Seam. Applied Sciences (Switzerland), 2020, 10, 2903.	1.3	9
31	Stiffness influence atlases of a novel flexure hinge-based parallel mechanism with large workspace. , 2005, , .		8
32	A ROS/Gazebo based method in developing virtual training scene for upper limb rehabilitation. , 2014, , .		8
33	Dimensional optimization of a minimally invasive surgical robot system based on NSGA-II algorithm. Advances in Mechanical Engineering, 2015, 7, 168781401456854.	0.8	8
34	Variable Stiffness Model Construction and Simulation Verification of Coupled Notch Continuum Manipulator. IEEE Access, 2019, 7, 154761-154769.	2.6	8
35	Design and optimization of a haptic manipulator using series-parallel mechanism. , 2012, , .		7
36	Stability analysis of a tracked mobile robot in climbing stairs process. , 2012, , .		7

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37	Error Analysis and Experimental Study of a Bi-Planar Parallel Mechanism in a Pedicle Screw Robot System. Sensors, 2016, 16, 2022.	2.1	7
38	A Robust Multi-Circle Detector Based on Horizontal and Vertical Search Analysis Fitting with Tangent Direction. International Journal of Pattern Recognition and Artificial Intelligence, 2019, 33, 1954013.	0.7	7
39	Handheld laparoscopic robotized instrument: progress or challenge?. Surgical Endoscopy and Other Interventional Techniques, 2020, 34, 719-727.	1.3	7
40	Grinding trajectory generator in robot-assisted laminectomy surgery. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 485-494.	1.7	7
41	Kinematics analysis for obstacle-climbing performance of a rescue robot. , 2007, , .		6
42	Real-Time Curvature Detection of a Flexible Needle with a Bevel Tip. Sensors, 2018, 18, 2057.	2.1	6
43	Locomotion Stability Analysis of Lower Extremity Augmentation Device. Journal of Bionic Engineering, 2019, 16, 99-114.	2.7	6
44	Precise laminae segmentation based on neural network for robot-assisted decompressive laminectomy. Computer Methods and Programs in Biomedicine, 2021, 209, 106333.	2.6	6
45	Friction modeling and compensation for haptic master manipulator based on deep Gaussian process. Mechanism and Machine Theory, 2021, 166, 104480.	2.7	6
46	A large workspace macro/micro dual parallel mechanism with wide-range flexure hinges. , 0, , .		5
47	A novel robot-assisted bonesetting system. , 0, , .		5
48	Obstacle Performance Analysis of Mine Research Robot Based on Terramechanics. , 2007, , .		5
49	Track-terrain interaction analysis for tracked mobile robot. , 2008, , .		5
50	Laser range finder based moving object tracking and avoidance in dynamic environment. , 2010, , .		5
51	The tip interface mechanics modeling of a bevel-tip flexible needle insertion. , 2012, , .		5
52	An under-actuated manipulation controller based on Workspace Analysis and Gaussian Processes. , 2015, , .		5
53	High Precision Data-driven Force Control of Compact Elastic Module for a Lower Extremity Augmentation Device. Journal of Bionic Engineering, 2018, 15, 805-819.	2.7	5
54	Conceptional Design and Kinematics Modeling of a Wide-Range Flexure Hinge-Based Parallel Manipulator. , 0, , .		4

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55	Camera calibration based on Extended Kalman Filter using robot's arm motion. , 2009, , .		4
56	Design and analysis of a 6-DOF parallel robot used in artificial cervical disc replacement surgery. , 2010, , .		4
57	YARC — A universal kinematic controller for serial robots based on PMAC and MoveIt!. , 2014, , .		4
58	U-Pendant: A universal teach pendant for serial robots based on ROS. , 2014, , .		4
59	Research on obstacle negotiation capability of tracked robot based on terramechanics. , 2014, , .		4
60	Design and kinematic analysis of a parallel robot with Remote Center of Motion for Minimally Invasive Surgery. , 2015, , .		4
61	HEALPix-IA: A Global Registration Algorithm for Initial Alignment. Sensors, 2019, 19, 427.	2.1	4
62	Three-dimensional geometric modeling of the spine based on reverse engineering technology. , 2010, , .		3
63	FPGA-Based Control System for 6-UPS Medical Parallel Robot. , 2010, , .		3
64	Design and kinematic analysis of a hybrid manipulator for spine surgery. , 2016, , .		3
65	Lower Limb Exoskeleton Hybrid Phase Control Based on Fuzzy Gain Sliding Mode Controller. , 2018, , .		3
66	Handheld robotic needle holder training: slower but better. Surgical Endoscopy and Other Interventional Techniques, 2021, 35, 1667-1674.	1.3	3
67	Model and Simulation Research of Tissue Based CT Images. , 2006, , .		2
68	An Intelligent Home Environment Inspecting Robot. , 2007, , .		2
69	Analysis of a New Workspace of the Hexaglide as a Motion Simulator for Fuel Tanker Trucks. , 2007, , .		2
70	Force-driven robotic drag control for freehand 3D ultrasound-guided robot-assisted percutaneous surgery. , 2009, , .		2
71	Humanoid detection of indoor dangerous gas source by mobile robot. , 2009, , .		2
72	Pose planning for robotically assisted minimally invasive surgery. , 2010, , .		2

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73	Development of a robot system assisting artificial cervical disc replacement surgery. , 2010, , .		2
74	Design and realization of an interactive medical images three dimension visualization system. , 2010, , .		2
75	Development of a panoramic simulation for robot assisted endoscopic surgery. , 2011, , .		2
76	An adaptive sliding mode-like P-type iterative learning control for robot manipulators. , 2014, , .		2
77	Kinematics modeling for a kinematic-mechanics coupling continuum manipulator. , 2014, , .		2
78	Gait tracking for lower extremity exoskeleton based on sliding mode control with CMAC compensation. , 2016, , .		2
79	A Compliant Ultra-Precision 6-DOF Parallel Positioner Based on the Coarse/Fine Dual Architecture. , 2006, , .		1
80	Perception of Bump and Making a Response in an Autonomous Wheeled Mobile Robot. , 2006, , .		1
81	Intelligent Detection of Bumps in a Mobile Robot. , 2006, , .		1
82	Key Technology of Semi-autonomous Control Based on Plan Recognition for Intelligent Wheelchair. , 2010, , .		1
83	A simulation method of soft tissue cutting with haptics. , 2012, , .		1
84	Optimal design of robotic manipulators based on simultaneously considering links and joints flexibility. , 2012, , .		1
85	A time-optimal trajectory planning approach based on calculation cost consideration. , 2012, , .		1
86	Research on grinding system of robot-assisted artificial cervical disc replacement surgery. , 2012, , .		1
87	Visualization and real-time tracking of bone drill by electromagnetic position sensors. , 2013, , .		1
88	Increasing the accuracy and the repeatability of position control for micromanipulations using Heteroscedastic Gaussian Processes. , 2014, , .		1
89	A fuzzy logic system tuned with particle swarm optimization for gait segmentation using insole measured ground reaction force. , 2014, , .		1
90	Towards deformation control of soft tissues based on visual servo for flexible needle insertion applications. , 2015, , .		1

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91	Dynamic modeling and analysis of pseudo-elastic flexure hinges. , 2016, , .		1
92	Design and modeling of belt grinding tool for industrial robot application. , 2017, , .		1
93	Development and analysis of a tip-separated flexure needle based on piezo actuation. , 2017, , .		1
94	Preoperative optimization of the surgical robot considering internal diversity of workspace. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2018, 232, 1091-1107.	1.1	1
95	Real-Time Error Compensation Strategy Based on BP Neural Network for Master-Slave Control. , 2018, , .		1
96	Disturbance Observer Based Sliding Mode Control for Robot-Assisted Minimally Invasive Surgical System with Stochastic Time Delay. , 2018, , .		1
97	A Robust Circular Control Point Detector for Bi-Planar Spine Surgery Navigation System. IEEE Access, 2018, 6, 71084-71098.	2.6	1
98	Master–slave motion alignment for an open surgical console. International Journal of Medical Robotics and Computer Assisted Surgery, 2019, 15, e1974.	1.2	1
99	Virtual Reality-Based Teleoperator of Robot-Assistant Setting-Bone Surgery. , 2006, , .		0
100	Intelligent Response to Bump in an Autonomous Wheeled Robot. , 2006, , .		0
101	Bumping Signal Separation and Processing in a Wheeled Mobile Robot. , 2006, , .		0
102	Design and Analysis of a Novel Haptic Device. , 2006, , .		0
103	Solution and Application of Two Inverse Kinematics Subproblems. , 2006, , .		0
104	Improvement on obstacle avoiding ability based on laser range finder. , 2010, , .		0
105	Local shape patch based object detection. , 2010, , .		0
106	The kinematic model, motion planning and analysis for obstacle negotiation capability of the composite six-wheeled-legged robot. , 2011, , .		0
107	Robot-assisted PET-CT-MRI image fusion. , 2011, , .		0
108	PET/CT/MRI image fusion based on mobile robot. , 2011, , .		0

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109	A bilateral control method for surgical robots. , 2012, , .		0
110	A data-driven grasp planning method based on Gaussian Process Classifier. , 2015, , .		0
111	Intention detection in upper limb kinematics rehabilitation using a GP-based control strategy. , 2015, , .		0
112	The research of structure parameter optimization process for a novel parallel radiotherapy bed. , 2015, , .		0
113	Modeling and analysis of a superelastic elliptic flexure hinge using co-rotational beam elements. , 2015, , .		0
114	Horizontal two-dimensional nano-positioner based on shear plate piezoelectric actuators. , 2016, , .		0
115	A upper limb rehabilitation system with motion intention detection. , 2017, , .		0
116	A robust and singular-free analytical solution for the hand-eye calibration of a novel surgical robot. , 2018, , .		0
117	Design of a Series Elastic Actuator with Double-layer Parallel Spring for Lower Limb Exoskeletons. , 2019, , .		0
118	Design and Analysis of a Drive and Perception Integration Manipulator for Spinal Surgery. , 2021, , .		0
119	A Gravity-Compensation Algorithm for the Haptic Device Based on the Principle of Virtual Work and BP Neural Network. , 2018, , .		0
120	A Kind of Kinematics Modeling of 2 DOFs Notched Continuum Manipulator. , 2020, , .		0