Kai Xu

List of Publications by Year
in descending order

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69	2,137	471509	477307
papers	citations	17	29
		h-index	g-index

70	70	70	1216
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Design and Integration of a Telerobotic System for Minimally Invasive Surgery of the Throat. International Journal of Robotics Research, 2009, 28, 1134-1153.	8.5	342
2	An Investigation of the Intrinsic Force Sensing Capabilities of Continuum Robots. , 2008, 24, 576-587.		313
3	Analytic Formulation for Kinematics, Statics, and Shape Restoration of Multibackbone Continuum Robots Via Elliptic Integrals. Journal of Mechanisms and Robotics, 2010, 2, .	2.2	202
4	Design and Coordination Kinematics of an Insertable Robotic Effectors Platform for Single-Port Access Surgery. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1612-1624.	5.8	167
5	Development of the SJTU Unfoldable Robotic System (SURS) for Single Port Laparoscopy. IEEE/ASME Transactions on Mechatronics, 2015, 20, 2133-2145.	5.8	165
6	System design of an Insertable Robotic Effector Platform for Single Port Access (SPA) Surgery. , 2009, , .		114
7	Intrinsic Wrench Estimation and Its Performance Index for Multisegment Continuum Robots. IEEE Transactions on Robotics, 2010, 26, 555-561.	10.3	105
8	Surgical robots for SPL and NOTES: A review. Minimally Invasive Therapy and Allied Technologies, 2015, 24, 8-17.	1.2	48
9	Design of an underactuated anthropomorphic hand with mechanically implemented postural synergies. Advanced Robotics, 2014, 28, 1459-1474.	1.8	46
10	Review of surgical robotic systems for keyhole and endoscopic procedures: state of the art and perspectives. Frontiers of Medicine, 2020, 14, 382-403.	3.4	43
11	Actuation compensation for flexible surgical snake-like robots with redundant remote actuation. , 0, , .		42
12	Design, simulation and evaluation of kinematic alternatives for Insertable Robotic Effectors Platforms in Single Port Access Surgery. , 2010, , .		41
13	Configuration comparison among kinematically optimized continuum manipulators for robotic surgeries through a single access port. Robotica, 2015, 33, 2025-2044.	1.9	34
14	Development of a dexterous continuum manipulator for exploration and inspection in confined spaces. Industrial Robot, 2016, 43, 284-295.	2.1	33
15	A continuum manipulator for continuously variable stiffness and its stiffness control formulation. Mechanism and Machine Theory, 2020, 149, 103746.	4.5	29
16	A single-actuator prosthetic hand using a continuum differential mechanism. , 2015, , .		24
17	Continuum Differential Mechanisms and Their Applications in Gripper Designs. IEEE Transactions on Robotics, 2016, 32, 754-762.	10.3	22
18	FABRIKc: an Efficient Iterative Inverse Kinematics Solver for Continuum Robots. , 2018, , .		22

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19	Composed continuum mechanism for compliant mechanical postural synergy: An anthropomorphic hand design example. Mechanism and Machine Theory, 2019, 132, 108-122.	4.5	22
20	Design of a Modular Continuum-Articulated Laparoscopic Robotic Tool With Decoupled Kinematics. IEEE Robotics and Automation Letters, 2019, 4, 3545-3552.	5.1	20
21	Configuration Transition Control of a Continuum Surgical Manipulator for Improved Kinematic Performance. IEEE Robotics and Automation Letters, 2019, 4, 3750-3757.	5.1	19
22	A Variable Curvature Model for Multi-Backbone Continuum Robots to Account for Inter-Segment Coupling and External Disturbance. IEEE Robotics and Automation Letters, 2021, 6, 1590-1597.	5.1	19
23	A Compact Two-armed Slave Manipulator for Minimally Invasive Surgery of the Throat. , 0, , .		18
24	An experimental kinestatic comparison between continuum manipulators with structural variations. , 2014, , .		18
25	The SHURUI System: A Modular Continuum Surgical Robotic Platform for Multiport, Hybrid-Port, and Single-Port Procedures. IEEE/ASME Transactions on Mechatronics, 2022, 27, 3186-3197.	5.8	18
26	Wrist-Powered Partial Hand Prosthesis Using a Continuum Whiffle Tree Mechanism: A Case Study. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 609-618.	4.9	17
27	An endoscopic continuum testbed for finalizing system characteristics of a surgical robot for NOTES procedures. , 2013, , .		15
28	Experimental design verification of a compliant shoulder exoskeleton. , 2013, , .		14
29	The MERO Hand: A Mechanically Robust Anthropomorphic Prosthetic Hand using Novel Compliant Rolling Contact Joint. , 2019, , .		13
30	Closed-Loop Pose Control and Automated Suturing of Continuum Surgical Manipulators With Customized Wrist Markers Under Stereo Vision. IEEE Robotics and Automation Letters, 2021, 6, 7137-7144.	5.1	12
31	Mechanical implementation of postural synergies using a simple continuum mechanism. , 2014, , .		10
32	Continuum Manipulator with Redundant Backbones and Constrained Bending Curvature for Continuously Variable Stiffness. , 2018, , .		10
33	A robotic laparoscopic tool with enhanced capabilities and modular actuation. Science China Technological Sciences, 2019, 62, 47-59.	4.0	10
34	Endoscopic image luminance enhancement based on the inverse square law for illuminance and retinex. International Journal of Medical Robotics and Computer Assisted Surgery, 2022, 18, e2396.	2.3	9
35	Kinematic Optimization of a Continuum Surgical Manipulator. , 2018, , .		8
36	A Closed-Loop Controller for Cable-Driven Hyper-Redundant Manipulator with Joint Angle Sensors. , 2019, , .		8

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37	A foldable stereo vision unit for Single Port Access Laparoscopy. , 2014, , .		6
38	A Comparative Study for Postural Synergy Synthesis Using Linear and Nonlinear Methods. International Journal of Humanoid Robotics, 2016, 13, 1650009.	1.1	6
39	Reach to Grasp Planning for a Synergy-Controlled Robotic Hand based on Pesudo-Distance Formulation. International Journal of Humanoid Robotics, 2020, 17, 2050015.	1.1	6
40	A Closed-Loop Controller for a Continuum Surgical Manipulator Based on a Specially Designed Wrist Marker and Stereo Tracking. , 2020, , .		6
41	Design of a Lightweight Single-Actuator Multi-Grasp Prosthetic Hand With Force Magnification. Journal of Mechanisms and Robotics, 2020, 12, .	2.2	6
42	Preliminary Development of a Continuum Dual-Arm Surgical Robotic System for Transurethral Procedures. Lecture Notes in Computer Science, 2017, , 311-322.	1.3	5
43	CombX: Design and experimental characterizations of a haptic device for surgical teleoperation. International Journal of Medical Robotics and Computer Assisted Surgery, 2020, 16, e2042.	2.3	5
44	Inverse Kinematics and Dexterous Workspace Formulation for 2-Segment Continuum Robots With Inextensible Segments. IEEE Robotics and Automation Letters, 2022, 7, 510-517.	5.1	5
45	Design and preliminary experimentation of a continuum exoskeleton for self-provided bilateral rehabilitation. , 2014, , .		4
46	Model-Based Estimation of the Gravity-Loaded Shape and Scene Depth for a Slim 3-Actuator Continuum Robot with Monocular Visual Feedback. , 2019, , .		4
47	Dimension Reduced Instantaneous Inverse Kinematics for Configuration Variable Limits of Continuum Manipulators. , 2019, , .		4
48	A Continuum Manipulator with Closed-form Inverse Kinematics and Independently Tunable Stiffness. , 2020, , .		4
49	Design and postural synergy synthesis of a prosthetic hand for a manipulation task. , 2013, , .		3
50	Design of a haptic master device for teleoperation applications. , 2017, , .		3
51	CombX: Design of a Haptic Device for Teleoperation. , 2018, , .		2
52	ParaMaster: Design and Experimental Characterizations of a Haptic Device for Surgical Teleoperation. , 2020, , .		2
53	A Sample-Based Color Correction Method for Laparoscopic Images. , 2020, , .		2
54	Free-Head Pose Estimation under Low-Resolution Scenarios. , 2020, , .		2

#	Article	IF	Citations
55	A robotic surgical tool with continuum wrist, kinematically optimized curved stem, and collision avoidance kinematics for single port procedure. Mechanism and Machine Theory, 2022, 173, 104863.	4.5	2
56	Design of a hyper-redundant continuum manipulator for intra-cavity tasks. , 2014, , .		1
57	Design of a Sliding-Pin Needle Driver for a Continuum Surgical Robot. , 2018, , .		1
58	Reach-to-Grasp Planning for a Synergy-Controlled Robotic Hand Based on Grasp Quality Prediction. , 2018, , .		1
59	Design of a Cable Driven Floating Robotic Arm with Continuum Joints. , 2019, , .		1
60	Mobility Characteristics Analysis of a Dual-Continuum-Joint Translator. , 2019, , .		1
61	The Feasibility of a Virtual Reality System for Attention Analysis. , 2019, , .		1
62	Synthesis of a micro motor actuated by remote resonant magnetic fields. , 2013, , .		0
63	Dexterity and functionality enhancement of the SJTU Unfoldable Robotic System. , 2015, , .		0
64	Design and Validation of Multi-Layer Brakes for a Lockable Stand for a Surgical Robotic SystemBehaviors. , 2018, , .		0
65	Design and Kinematic Modeling of a Novel Steerable Needle for Image-Guided Insertion. , 2020, , .		0
66	Inverse Kinematics Formulations of a Continuum Endoscope for a View Adjustment Similar to the da Vinci Endoscope. , 2021, , .		0
67	Feedforward Neural Network Assisted Configuration Transition Control of Continuum Surgical Manipulators. , 2021, , .		0
68	Manipulability-Oriented Configuration Transition Control of Continuum Surgical Manipulators Based on Velocity Polytopes. , 2021, , .		0
69	Design and Modeling of a Reloadable Coil-Delivery Instrument for Aneurysm Embolization. , 2021, , .		0