Shuang Song

List of Publications by Year in descending order

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134 papers	2,587 citations	218677 26 h-index	214800 47 g-index
134 all docs	134 docs citations	134 times ranked	1784 citing authors

#	Article	IF	Citations
1	Motion Planning of Manipulator by Points-Guided Sampling Network. IEEE Transactions on Automation Science and Engineering, 2023, 20, 821-831.	5.2	3
2	Human-Aware Path Planning With Improved Virtual Doppler Method in Highly Dynamic Environments. IEEE Transactions on Automation Science and Engineering, 2023, 20, 1304-1321.	5.2	6
3	A Simplified Magnetic Positioning Approach Based on Analytical Method and Data Fusion for Automated Guided Vehicles. IEEE/ASME Transactions on Mechatronics, 2022, 27, 3065-3075.	5.8	5
4	Dynamic wheeled motion control of wheel-biped transformable robots. Biomimetic Intelligence and Robotics, 2022, 2, 100027.	2.0	7
5	Integrated Design and Decoupled Control of Anchoring and Drug Release for Wireless Capsule Robots. IEEE/ASME Transactions on Mechatronics, 2022, 27, 2897-2907.	5.8	13
6	Model-Free and Uncalibrated Eye-in-Hand Visual Servoing Approach for Concentric-Tube Robots. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-11.	4.7	5
7	Design and Kinematic Modeling of In-Situ Torsionally-Steerable Flexible Surgical Robots. IEEE Robotics and Automation Letters, 2022, 7, 1864-1871.	5.1	6
8	A Modular Lockable Mechanism for Tendon-Driven Robots: Design, Modeling and Characterization. IEEE Robotics and Automation Letters, 2022, 7, 2023-2030.	5.1	9
9	Wearable Surgical Optical Tracking System Based on Multi-Modular Sensor Fusion. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-11.	4.7	7
10	Towards Terrain Adaptablity: In Situ Transformation of Wheel-Biped Robots. IEEE Robotics and Automation Letters, 2022, 7, 3819-3826.	5.1	5
11	Noninvasive estimation of aortic pressure waveform based on simplified Kalman filter and dual peripheral artery pressure waveforms. Computer Methods and Programs in Biomedicine, 2022, 219, 106760.	4.7	3
12	Calibration-by-Pivoting: A Simple and Accurate Calibration Method for Magnetic Tracking System. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	4.7	7
13	Dexterity Analysis and Motion Optimization of In-Situ Torsionally-Steerable Flexible Surgical Robots. IEEE Robotics and Automation Letters, 2022, 7, 8347-8354.	5.1	6
14	An Optically Aided Magnetic Tracking Approach for Magnetically Actuated Capsule Robot. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-9.	4.7	19
15	Multipoint Simultaneous Tracking of Wireless Capsule Endoscope Using Magnetic Sensor Array. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	4.7	25
16	Feasibility Study of Permanent Magnet-Based Tumor Tracking Technique for Precise Lung Cancer Radiotherapy. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	4.7	16
17	Risk-Aware Path Planning Under Uncertainty in Dynamic Environments. Journal of Intelligent and Robotic Systems: Theory and Applications, 2021, 101, 1.	3.4	11
18	Tip estimation approach for concentric tube robots using 2D ultrasound images and kinematic model. Medical and Biological Engineering and Computing, 2021, 59, 1461-1473.	2.8	2

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19	Kinematic Modeling of Magnetically-Actuated Robotic Catheter in Nonlinearly-Coupled Multi-Field. IEEE Robotics and Automation Letters, 2021, 6, 8189-8196.	5.1	11
20	Design of a Legged and Clamper-Based Capsule Robot With Active Locomotion Function. Journal of Medical Devices, Transactions of the ASME, 2021, 15, .	0.7	1
21	Magnetic Tracking of Wireless Capsule Endoscope in Mobile Setup Based on Differential Signals. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-8.	4.7	28
22	Reliable Hybrid Mixture Model for Generalized Point Set Registration. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	4.7	11
23	Dynamic tracking for microrobot with active magnetic sensor array. , 2021, , .		3
24	Modeling and Control of an Untethered Magnetic Gripper. , 2021, , .		4
25	Real-Time Multi-Object Magnetic Tracking for Multi-Arm Continuum Robots. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-9.	4.7	6
26	A Preliminary Study on Fast Calibration Method for Magnetic Positioning Sensor Array. , 2021, , .		2
27	Multi-Magnet Tracking Method using Extended Kalman Filter. , 2021, , .		6
28	Mobile Sensor Array Tracking Approach for Electromagnetic Driven Capsule Robot. , 2021, , .		0
29	Towards Tracking by 2D-target Registration for Surgical Optical Tracking System. , 2021, , .		1
30	Visual Servoing Control of Concentric-tube Robot with Jacobian Matrix Estimation. , 2021, , .		0
31	Design and Analysis of a Multi-Section Wire-driven Continuum Robot System with Variable Structures. , 2021, , .		0
32	Design Optimization of Y-Shaped Transmission System for Dual-Arm Concentric-Tube Robots. , 2021, , .		0
33	Towards Components-of-Interest Feedback Control and State Estimation of Robotic Manipulator. , 2021, , .		0
34	Positioning Accuracy Improvement of Automated Guided Vehicles Based on a Novel Magnetic Tracking Approach. IEEE Intelligent Transportation Systems Magazine, 2020, 12, 138-148.	3.8	30
35	Design of a multi-arm concentric-tube robot system for transnasal surgery. Medical and Biological Engineering and Computing, 2020, 58, 497-508.	2.8	25
36	Prior Knowledge-Based Optimization Method for the Reconstruction Model of Multicamera Optical Tracking System. IEEE Transactions on Automation Science and Engineering, 2020, 17, 2074-2084.	5.2	16

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37	A Novel Frequency-Domain Approach for the Exact Range of Imaginary Spectra and the Stability Analysis of LTI Systems With Two Delays. IEEE Access, 2020, 8, 36595-36601.	4.2	12
38	A Novel Magnetic Tracking Approach for Intrabody Objects. IEEE Sensors Journal, 2020, 20, 4976-4984.	4.7	22
39	RectMag3D: A Magnetic Actuation System for Steering Milli/Microrobots Based on Rectangular Electromagnetic Coils. Applied Sciences (Switzerland), 2020, 10, 2677.	2.5	13
40	Motion Control of Magnetic Microrobot Using Uniform Magnetic Field. IEEE Access, 2020, 8, 71083-71092.	4.2	18
41	Eye-In-Hand Uncalibrated Visual Servoing of Concentric Tube Robot. , 2020, , .		3
42	Surgical Instrument Tracking By Multiple Monocular Modules and a Sensor Fusion Approach. IEEE Transactions on Automation Science and Engineering, 2019, 16, 629-639.	5.2	32
43	A Novel Relative Position Estimation Method for Capsule Robot Moving in Gastrointestinal Tract. Sensors, 2019, 19, 2746.	3.8	24
44	Design and Optimization of a Joint Torque Sensor for Robot Collision Detection. IEEE Sensors Journal, 2019, 19, 6618-6627.	4.7	39
45	Magnetically Driven Wireless Capsule Robot with Targeting Biopsy Function. , 2019, , .		7
46	Design of A Novel Biopsy Capsule Robot with Anchoring Function for Intestinal Tract. , 2019, , .		7
47	A 3DoF Pose Estimation Method for Multi-Trolley from a Single RGB Image. , 2019, , .		0
48	An Improved Simultaneously Magnetic Actuation and Localization Method based on Magnetic Sensor Array. , 2019, , .		3
49	Design of a Magnetically-Driven Untethered Micro-Gripper for Drug Delivery. , 2019, , .		1
50	Adaptive Sampling for Human-aware Path Planning in Dynamic Environments. , 2019, , .		2
51	System Design and Balance Control of a Bipedal Leg-wheeled Robot. , 2019, , .		17
52	Instantaneous Velocity Estimation of Magnetic Microrobots with Visual Tracking *. , 2019, , .		1
53	3D Reconstruction of Dense Model based on the Sparse Frames using RGBD Camera. , 2019, , .		3
54	Design of A Novel Electromagnetic Actuation System for Actuating Magnetic Capsule Robot. , 2019, , .		8

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55	A Full Span Magnetic Localization Algorithm. , 2019, , .		4
56	RGB-Thermal Fusion Network for Leakage Detection of Crude Oil Transmission Pipes. , 2019, , .		7
57	Dynamic Height Balance Control for Bipedal Wheeled Robot Based on ROS-Gazebo. , 2019, , .		11
58	Tip Estimation Method in Phantoms for Curved Needle Using 2D Transverse Ultrasound Images. Applied Sciences (Switzerland), 2019, 9, 5305.	2.5	3
59	Design, Control and Analysis of a Dual-arm Continuum Flexible Robot System. , 2019, , .		1
60	Design and Optimization of Concentric Tube Robots Based on Surgical Tasks, Anatomical Constraints and Follow-the-Leader Deployment. IEEE Access, 2019, 7, 173612-173625.	4.2	18
61	Geomagnetic Compensation for the Rotating of Magnetometer Array During Magnetic Tracking. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 3379-3386.	4.7	25
62	Safety-Enhanced Model-Free Visual Servoing for Continuum Tubular Robots Through Singularity Avoidance in Confined Environments. IEEE Access, 2019, 7, 21539-21558.	4.2	30
63	6-D Electromagnetic Tracking Approach Using Uniaxial Transmitting Coil and Tri-Axial Magneto-Resistive Sensor. IEEE Sensors Journal, 2018, 18, 1178-1186.	4.7	32
64	Design and Fabrication of a Novel Force Sensor for Robot Grippers. IEEE Sensors Journal, 2018, 18, 1410-1418.	4.7	9
65	Magnetic Tracking in Medical Robotics. Series in Bioengineering, 2018, , 141-162.	0.6	1
66	A novel intestinal microcapsule endoscope robot with biopsy function. , 2018, , .		7
67	A New Solution for the Inverse Kinematics of Concentric-Tube Robots. , 2018, , .		4
68	Heart Rate Variability Parameters Extraction Based on Facial Video*. , 2018, , .		1
69	RRT*-smooth Algorithm Applied to Motion Planning of Concentric Tube Robots. , 2018, , .		3
70	Design, Simulation and Fabrication of the Leg of Capsule Endoscopy. , 2018, , .		0
71	Robust Generalized Point Cloud Registration with Expectation Maximization Considering Anisotropic Positional Uncertainties. , 2018, , .		23
72	A Novel 6-D Tracking Method by Fusion of 5-D Magnetic Tracking and 3-D Inertial Sensing. IEEE Sensors Journal, 2018, 18, 9640-9648.	4.7	22

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73	An Improved Calibration Method for a Rotating 2D LIDAR System. Sensors, 2018, 18, 497.	3.8	36
74	Heart Rate Extraction Based on Near-Infrared Camera: Towards Driver State Monitoring. IEEE Access, 2018, 6, 33076-33087.	4.2	37
75	Preliminary study on magnetic tracking-based planar shape sensing and navigation for flexible surgical robots in transoral surgery: methods and phantom experiments. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 241-251.	2.8	20
76	REAL-TIME SHAPE ESTIMATION OF CURVILINEAR FLEXIBLE SURGICAL ROBOTS: METHODS, EXPERIMENTS AND ANALYSIS. International Journal of Robotics and Automation, 2018, 33, .	0.1	4
77	Development of a compact continuum tubular robotic system for nasopharyngeal biopsy. Medical and Biological Engineering and Computing, 2017, 55, 403-417.	2.8	51
78	Design and Optimization Strategy of Sensor Array Layout for Magnetic Localization System. IEEE Sensors Journal, 2017, 17, 1849-1857.	4.7	43
79	Safety-Enhanced Motion Planning for Flexible Surgical Manipulator Using Neural Dynamics. IEEE Transactions on Control Systems Technology, 2017, 25, 1711-1723.	5.2	30
80	A Novel 6-D Pose Detection Method Using Opposing-Magnet Pair System. IEEE Sensors Journal, 2017, 17, 2642-2643.	4.7	6
81	Shape Sensing Techniques for Continuum Robots in Minimally Invasive Surgery: A Survey. IEEE Transactions on Biomedical Engineering, 2017, 64, 1665-1678.	4.2	262
82	Precise motion control of concentric-tube robot based on visual servoing. , 2017, , .		10
83	Preliminary study on magnetic tracking based navigation for wire-driven flexible robot. , 2017, , .		3
84	Robust visual inertial monocular using nonlinear optimization. , 2017, , .		0
85	Mobile robot manipulation system design in given environments. , 2017, , .		0
86	Intraoperative neurological monitoring system for robot assisted minimally invasive spine surgery using electromyography. , 2017, , .		0
87	Pilot study on shape sensing for continuum tubular robot with multi-magnet tracking algorithm. , 2017, , .		9
88	An Improved 6-D Pose Detection Method Based on Opposing-Magnet Pair System and Constraint Multiple Magnets Tracking Algorithm. IEEE Sensors Journal, 2017, 17, 6752-6759.	4.7	26
89	Electromagnetic actuation system using stationary six-pair coils for three-dimensional wireless locomotive microrobot. , 2017, , .		7
90	An improved 6D pose detection method based on multiple magnets tracking. , 2017, , .		1

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91	An analytic algorithm based position and orientation detection using a tri-axial magnetoresistive sensor. , 2017, , .		1
92	Heartbeat classification system based on modified stacked denoising autoencoders and neural networks. , 2017, , .		2
93	Study on magnetic field model of independent circular coils for wireless manipulation of microrobots. , 2017, , .		4
94	Shape tracking and navigation for continuum surgical robot based on magnetic tracking. , 2017, , .		5
95	Multiple Objects Positioning and Identification Method Based on Magnetic Localization System. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	52
96	Locating Intra-Body Capsule Object by Three-Magnet Sensing System. IEEE Sensors Journal, 2016, 16, 5167-5176.	4.7	52
97	A novel method for recognizing fruits with plastic packing. , 2016, , .		1
98	The implementation of augmented reality in a robotic teleoperation system. , 2016, , .		9
99	Real-Time Tracking and Navigation for Magnetically Manipulated Untethered Robot. IEEE Access, 2016, 4, 7104-7110.	4.2	15
100	RectMag: An accurate magnetic field model based actuation system. , 2016, , .		0
101	An adjusted dipole model for rectangular electromagnetic coils. , 2016, , .		0
102	A Miniature Soft Robotic Manipulator Based on Novel Fabrication Methods. IEEE Robotics and Automation Letters, 2016, 1, 617-623.	5.1	83
103	Real-Time Shape Estimation for Wire-Driven Flexible Robots With Multiple Bending Sections Based on Quadratic BÃ©zier Curves. IEEE Sensors Journal, 2015, 15, 6326-6334.	4.7	82
104	Preliminary design towards a magnetic actuated drug delivery system. , 2015, , .		3
105	Shape reconstruction for wire-driven flexible robots based on BÃ©zier curve and electromagnetic positioning. Mechatronics, 2015, 29, 28-35.	3.3	71
106	Electromagnetic Positioning for Tip Tracking and Shape Sensing of Flexible Robots. IEEE Sensors Journal, 2015, 15, 4565-4575.	4.7	94
107	Study on mathematic magnetic field model of rectangular coils for magnetic actuation. , 2015, , .		5
108	An Efficient Magnetic Tracking Method Using Uniaxial Sensing Coil. IEEE Transactions on Magnetics, 2014, 50, 1-7.	2.1	50

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109	An Improved Magnetic Tracking Method Using Rotating Uniaxial Coil With Sparse Points and Closed Form Analytic Solution. IEEE Sensors Journal, 2014, 14, 3585-3592.	4.7	21
110	A preliminary study on mathematic modeling of annular magnets in magnetic tracking systems. , 2014, , .		1
111	6-D Magnetic Localization and Orientation Method for an Annular Magnet Based on a Closed-Form Analytical Model. IEEE Transactions on Magnetics, 2014, 50, 1-11.	2.1	90
112	An analytic algorithm based electromagnetic localization method. , 2013, , .		2
113	Wireless magnetic sensor node for vehicle detection using finite element simulation. , 2013, , .		3
114	Cognitive tracking of surgical instruments based on stereo vision and depth sensing. , 2013, , .		10
115	Recovering Amplitudes and Phases From Saturated Multifrequency Sinusoid Signals. IEEE Sensors Journal, 2013, 13, 4569-4575.	4.7	6
116	An Electromagnetic Localization and Orientation Method Based on Rotating Magnetic Dipole. IEEE Transactions on Magnetics, 2013, 49, 1274-1277.	2.1	59
117	Computer-Assisted Transoral Surgery with Flexible Robotics and Navigation Technologies: A Review of Recent Progress and Research Challenges. Critical Reviews in Biomedical Engineering, 2013, 41, 365-391.	0.9	71
118	A Magnetic Tracking Method using Active Uniaxial Sensor and Variable Step Size Searching Strategy. , 2013, , .		1
119	Endoscopes shape reconstruction based on electromagnetic localization and curve fitting. , 2012, , .		2
120	On the singular problem in linear algorithm for the magnetic dipole positioning. , 2012, , .		2
121	A Novel Positioning and Orientation System Based on Three-Axis Magnetic Coils. IEEE Transactions on Magnetics, 2012, 48, 2211-2219.	2.1	94
122	An improved method and algorithm for electromagnetic localization. , 2011, , .		1
123	A real-time tracking method for the rectangular magnet based on parallel Levenberg-Marquardt algorithm. International Journal of Applied Electromagnetics and Mechanics, 2011, 37, 241-251.	0.6	9
124	A New Tracking System for Three Magnetic Objectives. IEEE Transactions on Magnetics, 2010, 46, 4023-4029.	2.1	87
125	A novel method of 6-DoF electromagnetic navigation system for surgical robot. , 2010, , .		9
126	The extraction technology of weak coupling AC signal in an electromagnetic localization system. , 2010, , .		9

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127	Detection of lymphangiectasia disease from wireless capsule endoscopy images with adaptive threshold. , 2010, , .		3
128	Design of a data acquisition system on magnetic signal for magnetic localization and orientation system. , 2010, , .		2
129	A Cubic 3-Axis Magnetic Sensor Array for Wirelessly Tracking Magnet Position and Orientation. IEEE Sensors Journal, 2010, 10, 903-913.	4.7	183
130	A new calibration method for magnetic sensor array for tracking capsule endoscope. , 2009, , .		19
131	Two-magnet-based 6D-localization and orientation for wireless capsule endoscope. , 2009, , .		21
132	A Six-Dimensional Magnetic Localization Algorithm for a Rectangular Magnet Objective Based on a Particle Swarm Optimizer. IEEE Transactions on Magnetics, 2009, 45, 3092-3099.	2.1	76
133	Detection of weak magnetic signal for magnetic localization and orientation in capsule endoscope. , 2009, , .		5
134	Real time algorithm for magnet's localization in capsule endoscope. , 2009, , .		15