Jingang Yi

List of Publications by Year in descending order

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		172443	206102
155	3,082	29	48
papers	citations	h-index	g-index

156	156	156	2189
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Disturbance-Observer-Based Hysteresis Compensation for Piezoelectric Actuators. IEEE/ASME Transactions on Mechatronics, 2009, 14, 456-464.	5.8	164
2	Kinematic Modeling and Analysis of Skid-Steered Mobile Robots With Applications to Low-Cost Inertial-Measurement-Unit-Based Motion Estimation. IEEE Transactions on Robotics, 2009, 25, 1087-1097.	10.3	155
3	Multicluster Tools Scheduling: An Integrated Event Graph and Network Model Approach. IEEE Transactions on Semiconductor Manufacturing, 2006, 19, 339-351.	1.7	123
4	Optimal Scheduling of Multicluster Tools With Constant Robot Moving Times, Part I: Two-Cluster Analysis. IEEE Transactions on Automation Science and Engineering, 2011, 8, 5-16.	5.2	119
5	Steady-State Throughput and Scheduling Analysis of Multicluster Tools: A Decomposition Approach. IEEE Transactions on Automation Science and Engineering, 2008, 5, 321-336.	5.2	118
6	Mechatronic Systems Design for an Autonomous Robotic System for High-Efficiency Bridge Deck Inspection and Evaluation. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1655-1664.	5.8	101
7	Emergency Braking Control with an Observer-based Dynamic Tire/Road Friction Model and Wheel Angular Velocity Measurement. Vehicle System Dynamics, 2003, 39, 81-97.	3.7	83
8	A Piezo-Sensor-Based â€œSmart Tireâ€•System for Mobile Robots and Vehicles. IEEE/ASME Transactions on Mechatronics, 2008, 13, 95-103.	5.8	76
9	Quasi-Direct Drive Actuation for a Lightweight Hip Exoskeleton With High Backdrivability and High Bandwidth. IEEE/ASME Transactions on Mechatronics, 2020, 25, 1794-1802.	5.8	75
10	Optimal Scheduling of Multicluster Tools With Constant Robot Moving Times, Part II: Tree-Like Topology Configurations. IEEE Transactions on Automation Science and Engineering, 2011, 8, 17-28.	5.2	66
11	On stable simultaneous input and state estimation for discreteâ€time linear systems. International Journal of Adaptive Control and Signal Processing, 2011, 25, 671-686.	4.1	65
12	A Vibration-Based PMN-PT Energy Harvester. IEEE Sensors Journal, 2009, 9, 731-739.	4.7	60
13	Real-Time Intended Knee Joint Motion Prediction by Deep-Recurrent Neural Networks. IEEE Sensors Journal, 2019, 19, 11503-11509.	4.7	60
14	Two Shank-Mounted IMUs-Based Gait Analysis and Classification for Neurological Disease Patients. IEEE Robotics and Automation Letters, 2020, 5, 1970-1976.	5.1	48
15	A PVDF-Based Deformation and Motion Sensor: Modeling and Experiments. IEEE Sensors Journal, 2008, 8, 384-391.	4.7	47
16	Wearable Sensor System for Detecting Gait Parameters of Abnormal Gaits: A Feasibility Study. IEEE Sensors Journal, 2018, 18, 4234-4241.	4.7	45
17	Macroscopic traffic flow propagation stability for adaptive cruise controlled vehicles. Transportation Research Part C: Emerging Technologies, 2006, 14, 81-95.	7.6	44
18	Simultaneous Localization of Multiple Unknown and Transient Radio Sources Using a Mobile Robot. IEEE Transactions on Robotics, 2012, 28, 668-680.	10.3	43

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19	On the Stability and Agility of Aggressive Vehicle Maneuvers: A Pendulum-Turn Maneuver Example. IEEE Transactions on Control Systems Technology, 2012, 20, 663-676.	5.2	43
20	The Lower Limbs Kinematics Analysis by Wearable Sensor Shoes. IEEE Sensors Journal, 2016, 16, 2627-2638.	4.7	43
21	Stability of macroscopic traffic flow modeling through wavefront expansion. Transportation Research Part B: Methodological, 2003, 37, 661-679.	5.9	42
22	Autonomous robotic system for bridge deck data collection and analysis. , 2014, , .		40
23	Rider Trunk and Bicycle Pose Estimation With Fusion of Force/Inertial Sensors. IEEE Transactions on Biomedical Engineering, 2013, 60, 2541-2551.	4.2	38
24	Whole-Body Pose Estimation in Human Bicycle Riding Using a Small Set of Wearable Sensors. IEEE/ASME Transactions on Mechatronics, 2015, , 1-1.	5.8	37
25	Contactless Determination of Electrical Conductivity of One-Dimensional Nanomaterials by Solution-Based Electro-orientation Spectroscopy. ACS Nano, 2015, 9, 5405-5412.	14.6	36
26	Cooperative Search of Multiple Unknown Transient Radio Sources Using Multiple Paired Mobile Robots. IEEE Transactions on Robotics, 2014, 30, 1161-1173.	10.3	35
27	RABIT: implementation, performance validation and integration with other robotic platforms for improved management of bridge decks. International Journal of Intelligent Robotics and Applications, 2017, 1, 271-286.	2.8	34
28	IMU-Based Gait Normalcy Index Calculation for Clinical Evaluation of Impaired Gait. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 3-12.	6.3	34
29	Autonomous robotic system for high-efficiency non-destructive bridge deck inspection and evaluation. , 2013, , .		33
30	Inertial Sensor-Based Slip Detection in Human Walking. IEEE Transactions on Automation Science and Engineering, 2019, 16, 1399-1411.	5.2	33
31	Autonomous motorcycles for agile maneuvers, part I: Dynamic modeling. , 2009, , .		31
32	Embedded Flexible Force Sensor for In-Situ Tireâ€“Road Interaction Measurements. IEEE Sensors Journal, 2013, 13, 1756-1765.	4.7	30
33	A simple model for predicting walking energetics with elastically-suspended backpack. Journal of Biomechanics, 2016, 49, 4150-4153.	2.1	30
34	Vision-based motion planning for an autonomous motorcycle onÂill-structured roads. Autonomous Robots, 2007, 23, 197-212.	4.8	29
35	IMU-based localization and slip estimation for skid-steered mobile robots. , 2007, , .		27
36	Balance control and analysis of stationary riderless motorcycles. , 2011, , .		27

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37	Throughput Analysis of Linear Cluster Tools. , 2007, , .		25
38	A Novel Tactile Sensor with Electromagnetic Induction and Its Application on Stick-Slip Interaction Detection. Sensors, 2016, 16, 430.	3.8	25
39	A robotic bipedal model for human walking with slips. , 2015, , .		23
40	Motion Control, Planning and Manipulation of Nanowires Under Electric-Fields in Fluid Suspension. IEEE Transactions on Automation Science and Engineering, 2015, 12, 37-49.	5.2	23
41	A Wearable Sensing and Training System: Towards Gait Rehabilitation for Elderly Patients With Knee Osteoarthritis. IEEE Sensors Journal, 2019, 19, 5936-5945.	4.7	23
42	Neural network based uniformity profile control of linear chemical-mechanical planarization. IEEE Transactions on Semiconductor Manufacturing, 2003, 16, 609-620.	1.7	22
43	Stationary balance control of a bikebot. , 2014, , .		22
44	Wearable Knee Assistive Devices for Kneeling Tasks in Construction. IEEE/ASME Transactions on Mechatronics, 2021, 26, 1989-1996.	5.8	22
45	Trajectory tracking and balance control of an autonomous bikebot. , 2017, , .		21
46	Stability and Control of a Riderâ€“Bicycle System: Analysis and Experiments. IEEE Transactions on Automation Science and Engineering, 2020, 17, 348-360.	5.2	21
47	Autonomous motorcycles for agile maneuvers, part II: Control systems design. , 2009, , .		20
48	An integrated physical-learning model of physical human-robot interactions with application to pose estimation in bikebot riding. International Journal of Robotics Research, 2016, 35, 1459-1476.	8.5	20
49	Simultaneous Multiple-Nanowire Motion Control, Planning, and Manipulation Under Electric Fields in Fluid Suspension. IEEE Transactions on Automation Science and Engineering, 2018, 15, 80-91.	5.2	20
50	Static Tire/Road Stickâ€“Slip Interactions: Analysis and Experiments. IEEE/ASME Transactions on Mechatronics, 2014, 19, 1940-1950.	5.8	19
51	Monocular Vision-Based Parameter Estimation for Mobile Robotic Painting. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 3589-3599.	4.7	18
52	Motion planning for aggressive autonomous vehicle maneuvers. , 2016, , .		17
53	Automated characterization and assembly of individual nanowires for device fabrication. Lab on A Chip, 2018, 18, 1494-1503.	6.0	17
54	Sliding-Mode Nonlinear Predictive Control of Brain-Controlled Mobile Robots. IEEE Transactions on Cybernetics, 2022, 52, 5419-5431.	9.5	17

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55	Evaluation on Step Counting Performance of Wristband Activity Monitors in Daily Living Environment. IEEE Access, 2017, 5, 13020-13027.	4.2	16
56	Absolute Attitude Estimation of Rigid Body on Moving Platform Using Only Two Gyroscopes and Relative Measurements. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1350-1361.	5.8	16
57	Gaussian Processes Model-Based Control of Underactuated Balance Robots. , 2019, , .		16
58	A REVIEW ON HUMANâ€“EXOSKELETON COORDINATION TOWARDS LOWER LIMB ROBOTIC EXOSKELETON SYSTEMS. International Journal of Robotics and Automation, 2019, 34, .	0.1	16
59	A novel wheel-track hybrid electric powered wheelchair for stairs climbing. Journal of Advanced Mechanical Design, Systems and Manufacturing, 2016, 10, JAMDSM0060-JAMDSM0060.	0.7	15
60	High-throughput electrical measurement and microfluidic sorting of semiconductor nanowires. Lab on A Chip, 2016, 16, 2126-2134.	6.0	14
61	Localization of Unknown Networked Radio Sources Using a Mobile Robot with a Directional Antenna. Proceedings of the American Control Conference, 2007, , .	0.0	13
62	On the Optimality of One-Unit Cycle Scheduling of Multi-Cluster Tools with Single-Blade Robots. , 2007, , .		13
63	On the Time to Search for an Intermittent Signal Source Under a Limited Sensing Range. IEEE Transactions on Robotics, 2011, 27, 313-323.	10.3	13
64	Dynamic stability of a rider-bicycle system: Analysis and experiments. , 2015, , .		13
65	Model predictive control of buoyancy propelled autonomous underwater glider. , 2015, , .		13
66	A Real-time Pre-impact Fall Detection and Protection System. , 2018, , .		13
67	On the Wafer/Pad Friction of Chemicalâ€“Mechanical Planarization (CMP) Processesâ€”Part I: Modeling and Analysis. IEEE Transactions on Semiconductor Manufacturing, 2005, 18, 359-370.	1.7	12
68	Reconstructing Walking Dynamics From Two Shank-Mounted Inertial Measurement Units. IEEE/ASME Transactions on Mechatronics, 2021, 26, 3040-3050.	5.8	12
69	How to Carry Loads Economically: Analysis Based on a Predictive Biped Model. Journal of Biomechanical Engineering, 2020, 142, .	1.3	12
70	Dynamic modeling and balance control of human/bicycle systems. , 2010, , .		11
71	Balance equilibrium manifold and control of rider-bikebot systems. , 2016, , .		11
72	Shoeâ€“Floor Interactions in Human Walking With Slips: Modeling and Experiments. Journal of Biomechanical Engineering, 2018, 140, .	1.3	11

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73	Real-time motion planning of multiple nanowires in fluid suspension under electric-field actuation. International Journal of Intelligent Robotics and Applications, 2018, 2, 383-399.	2.8	11
74	A Stick-Slip Interactions Model of Soft-Solid Frictional Contacts. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, .	1.6	10
75	Real-Time Walking Gait Estimation for Construction Workers using a Single Wearable Inertial Measurement Unit (IMU). , 2021, , .		10
76	Rider/bicycle pose estimation with IMU/seat force measurements. , 2012, , .		9
77	Whole-body pose estimation in physical rider-bicycle interactions with a monocular camera and a set of wearable gyroscopes. , 2014, , .		9
78	Balance recovery control of human walking with foot slip. , 2016, , .		9
79	Hybrid zero dynamics of human biped walking with foot slip. , 2017, , .		9
80	Stable Learning-Based Tracking Control of Underactuated Balance Robots. IEEE Robotics and Automation Letters, 2021, 6, 1543-1550.	5.1	9
81	Multi-Robot Object Transport Motion Planning With a Deformable Sheet. IEEE Robotics and Automation Letters, 2022, 7, 9350-9357.	5.1	9
82	Simultaneous localization of multiple unknown CSMA-based wireless sensor network nodes using a mobile robot with a directional antenna. Intelligent Service Robotics, 2009, 2, 219-231.	2.6	8
83	Modeling and motion stability analysis of skid-steered mobile robots. , 2009, , .		8
84	Dynamic model-aided localization of underwater autonomous gliders. , 2013, , .		8
85	Pose estimation in physical human-machine interactions with application to bicycle riding. , 2014, , .		8
86	Wearable IMU-based Early Limb Lameness Detection for Horses using Multi-Layer Classifiers. , 2020, , .		8
87	Safety-Guaranteed Learning-Predictive Control for Aggressive Autonomous Vehicle Maneuvers. , 2020, , .		8
88	Motion control of autonomous aggressive vehicle maneuvers. , 2016, , .		7
89	Bipedal Model and Hybrid Zero Dynamics of Human Walking With Foot Slip. Journal of Computational and Nonlinear Dynamics, 2019, 14, .	1.2	7
90	A Framework for Remote Interaction and Management of Home Care Elderly Adults. IEEE Sensors Journal, 2022, 22, 11034-11044.	4.7	7

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91	Optimal scheduling of k-unit production of cluster tools with single-blade robots. , 2008, , .		6
92	A new algorithm for simultaneous input and state estimation. , 2008, , .		6
93	Understanding tire/road stick-slip interactions with embedded rubber force sensors. , 2012, , .		6
94	Electrophoresis-based motion planning and control of a nanowire in fluid suspension. , 2013, , .		6
95	Motion control and manipulation of nanowires under electric-fields in fluid suspension. , 2014, , .		6
96	Design of a Robotic Knee Assistive Device (ROKAD) for Slip-Induced Fall Prevention during Walking. IFAC-PapersOnLine, 2017, 50, 9802-9807.	0.9	6
97	Collaborative Object Manipulation Through Indirect Control of a Deformable Sheet by a Mobile Robotic Team. , 2019, , .		6
98	Detection method of eyes opening and closing ratio for driver's fatigue monitoring. IET Intelligent Transport Systems, 2021, 15, 31-42.	3.0	6
99	Machine Learningâ€Enabled Noncontact Sleep Structure Prediction. Advanced Intelligent Systems, 2022, 4, .	6.1	6
100	A Contactless On-Bed Radar System for Human Respiration Monitoring. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-10.	4.7	6
101	Disturbance observer-based hysteresis compensation for piezoelectric actuators. , 2009, , .		5
102	Time-optimal simultaneous motion planning and manipulation of multiple nanowires under electric-fields in fluid suspension. , 2016, , .		5
103	Strength Capacity Estimation of Human Upper Limb in Human-Robot Interactions with Muscle Synergy Models. , 2018, , .		5
104	Assist-As-Needed Control of a Wearable Lightweight Knee Robotic Device. , 2020, , .		5
105	Slip detection and prediction in human walking using only wearable inertial measurement units (IMUs). , 2015, , .		4
106	Automated Electric-Field-Based Nanowire Characterization, Manipulation, and Assembly. , 2018, , .		4
107	Capturability of Inverted Pendulum Gait Model Under Slip Conditions. , 2018, , .		4
108	An Integrated Stationary/Moving Balance Control of an Autonomous Bikebot. , 2019, , .		4

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109	Analysis and Validation of Serpentine Locomotion Dynamics of a Wheeled Snake Robot Moving on Varied Sloped Environments. , 2020, , .		4
110	Gaussian Process (GP)-based Learning Control of Selective Laser Melting Process. , 2021, , .		4
111	Collaborative Manipulation of Spherical-Shape Objects with a Deformable Sheet Held by a Mobile Robotic Team. IFAC-PapersOnLine, 2021, 54, 437-442.	0.9	4
112	Coordinated Pose Control of Mobile Manipulation With an Unstable Bikebot Platform. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4550-4560.	5.8	4
113	Wearable Inertial Sensor-Based Limb Lameness Detection and Pose Estimation for Horses. IEEE Transactions on Automation Science and Engineering, 2022, 19, 1365-1379.	5.2	4
114	Dynamic modeling of an L-shape PMN-PT piezo-based manipulator. , 2008, , .		3
115	Modeling of pure percussive drilling for autonomous robotic bridge decks rehabilitation. , 2013, , .		3
116	Modeling of rider-bicycle interactions with learned dynamics on constrained embedding manifolds. , 2013, , .		3
117	Dynamic rider/bicycle pose estimation with force/IMU measurements. , 2013, , .		3
118	Neural network-based gait assessment using measurements of a wearable sensor system. , 2014, , .		3
119	On the relationship between manifold learning latent dynamics and zero dynamics for human bipedal walking. , 2015, , .		3
120	Pose estimation of a rigid body and its supporting moving platform using two gyroscopes and relative complementary measurements. , 2016, , .		3
121	A wearable sensor system for knee adduction moment measurement. , 2016, , .		3
122	Introduction to the focused section on intelligent robotics for rehabilitation and human assistance. International Journal of Intelligent Robotics and Applications, 2017, 1, 3-5.	2.8	3
123	Modeling and Experiments of Rotary Percussive Drilling for Robotic Civil Infrastructure Rehabilitation. IFAC-PapersOnLine, 2017, 50, 9784-9789.	0.9	3
124	Balance Performance Tuning of Rider-Bikebot Interactions. , 2018, , .		3
125	Proprioceptive Localization Assisted by Magnetoreception: A Minimalist Intermittent Heading Based Approach. IEEE Robotics and Automation Letters, 2019, 4, 586-593.	5.1	3
126	Control of a Two-Wheel Steering Bikebot for Agile Maneuvers. , 2019, , .		3

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127	Development of a Two-Wheel Steering Unmanned Bicycle: Simulation and Experimental Study*. , 2020, , .		3
128	Balance Recoverability and Control of Bipedal Walkers with Foot Slip. Journal of Biomechanical Engineering, 2021, , .	1.3	3
129	Friction modeling in linear chemical-mechanical planarization. IEEE Control Systems, 2008, 28, 59-78.	0.8	2
130	An approximation algorithm for the least overlapping p-Frame problem with non-partial coverage for networked robotic cameras. , 2008, , .		2
131	Gait Adaptable Human-Robot Interaction System and its Application to a Robotic Walker. , 2018, , .		2
132	Generation of High-Density Hyperspectral Point Clouds of Crops with Robotic Multi-Camera Planning. , 2019, , .		2
133	Complete and Near-Optimal Path Planning for Simultaneous Sensor-Based Inspection and Footprint Coverage in Robotic Crack Filling. , 2019, , .		2
134	A Model Predictive Control Based Iterative Trajectory Optimization Method for Systems with State-Like Disturbances. , 2019, , .		2
135	Recoverability Estimation and Control for an Inverted Pendulum Walker Model Under Foot Slip. , 2020, , .		2
136	Spline-Based Modeling and Control of Soft Robots. , 2020, , .		2
137	Auto-Calibrated 3D Hyperspectral Scanning Using a Heterogeneous Set of Cameras and Lights with Spectrally-Optimal Next-Best-View Planning. , 2020, , .		2
138	Recoverability-Based Optimal Control for a Bipedal Walking Model With Foot Slip. , 2021, , .		2
139	Real-Time Human Lower Limbs Motion Estimation and Feedback for Potential Applications in Robotic Gait Aid and Training. , 2021, , .		2
140	Control of a Bipedal Walker Under Foot Slipping Condition Using Whole-Body Operational Space Framework. IFAC-PapersOnLine, 2021, 54, 278-283.	0.9	2
141	Autonomous Bikebot Control for Crossing Obstacles With Assistive Leg Impulsive Actuation. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1882-1890.	5.8	2
142	Motion planning and manipulation of multiple nanowires simultaneouly under electric-fields in fluid suspension. , 2015, , .		1
143	Design of respiratory training robot in rehabilitation of chronic obstructive pulmonary disease. , 2015, , .		1
144	Development of a novel elastic load-carrying device: Design, modeling and analysis. , 2016, , .		1

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145	Research on pose error relations of parallel radiotherapy bed based on total differential method. , 2016, , .		1
146	Disturbance observer-based balance control of robotic biped walkers under slip. , 2017, , .		1
147	Optimal motion planning and control of a crack filling robot for civil infrastructure automation. , 2017, , .		1
148	Driver Fatigue Detection Based on Machine Vision*. , 2018, , .		1
149	Muscle Synergy-Based Control of Human-Manipulator Interactions. , 2020, , .		1
150	Quantitative biomechanical analysis of Drosophila embryos through the stages of embryogenesis using a sensorized human/robot cooperative interface. , 2008, , .		0
151	A gait retraining feedback system based on wearable sensors. , 2017, , .		0
152	Accurate image mosaicing for bridge deck using graph optimization with GPS data. , 2017, , .		0
153	Human Periodic Rebalancing Modelling of a Rider-Bicycle System. , 2018, , .		0
154	Vibration Suppression Control in Robotic Percussive Drilling. , 2018, , .		0
155	Guest Editorial Special Issue on Challenges and Responses of Automation Science and Engineering to the COVID-19 Pandemic. IEEE Transactions on Automation Science and Engineering, 2022, 19, 555-559.	5.2	0