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Qualifications

Bachelor of Engineering, Jilin University

Master of Engineering, Jilin University

Doctor of Engineering, Tianjin University

1 Jan 2013 → ... Member of the Canada Society of Mechanical Engineering, Member of the Canada Society of Mechanical Engineering

1 Jan 2005 → ... Member of the American Society of Mechanical Engineering, Member of the American Society of Mechanical Engineering

1 Jan 2004 → ... Senior Member of Institute of Electrical and Electronics Engineering, Senior Member of Institute of Electrical and Electronics Engineering

Employment

Research Professor

Department of Industrial and Systems Engineering

The Hong Kong Polytechnic University

22 Mar 2024 → present

Research outputs

Fully connected neural network-based fixed-time adaptive sliding mode control for fuzzy semi-markov system

Ren, F., Wang, X. (Corresponding Author), Li, Y. & Zeng, Z., Oct 2024, In: IEEE Transactions on Industrial Informatics. 20, 10, p. 12317-12327 11 p.

Machine learning for micro- and nanorobots

Yang, L., Jiang, J., Ji, F., Li, Y., Yung, K. L., Ferreira, A. & Li, Z., 27 Jun 2024, (E-pub ahead of print) In: Nature Machine Intelligence. 6, 6, p. 605-618 14 p.

Fixed-Time Stabilization of Multi-Weighted Complex Networks via Novel Adaptive Pinning Chatter-Free Control and Its Applications

Ren, F., Wang, X., Li, Y., Chen, Z., Wei, C. & Zeng, Z., 1 Jun 2024, In: IEEE Transactions on Circuits and Systems I: Regular Papers. 71, 6, p. 2872-2884 13 p.

On Scheduled Space-Time Convergence: Sliding Mode Control Through the Scheduled Time Function

Liu, W., Sun, Y., Ma, H., Xiong, Z., Liu, Z. & Li, Y., May 2024, In: International Journal of Control, Automation and Systems. 22, 5, p. 1545-1554 10 p.

Saturation-Tolerant Predefined Space-Time Super Twisting Control and Its Application to Piezoelectric Fast Steering Mirror

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A Novel Rate-dependent Direct Inverse Preisach Model With Input Iteration for Hysteresis Compensation of Piezoelectric Actuators

Sun, Y., Ma, H., Li, Y., Liu, Z. & Xiong, Z., Apr 2024, In: International Journal of Control, Automation and Systems. 22, 4, p. 1277-1288 12 p.

A transfer-based reinforcement learning collaborative energy management strategy for extended-range electric buses with cabin temperature comfort consideration

Hu, D., Huang, C. (Corresponding Author), Yin, G., Li, Y., Huang, Y., Huang, H., Wu, J., Li, W. & Xie, H., 1 Mar 2024, In: Energy. 290, 16 p., 130097.

Conditional Sliding Mode Control-Based Fixed-Time Stabilization of Fuzzy Uncertain Complex System

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Saturated Prescribed Space-Time Adaptive Sliding Mode Control With its Implementation on Piezo-Actuated Fast Steering Mirror

Liu, C., Liu, W., Ma, H., Xiong, Z. & Li, Y., 1 Mar 2024, In: IEEE Transactions on Circuits and Systems II: Express Briefs. 71, 3, p. 1346-1350 5 p.

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Path-Constrained Time-Optimal Motion Planning for Robot Manipulators With Third-Order Constraints

Wang, R., Xie, Y., Chen, X. & Li, Y., 1 Dec 2023, In: IEEE/ASME Transactions on Mechatronics. 28, 6, p. 3005-3016 12 p., 3234584.

Jerk-Limited Time-Optimal Model Predictive Path Following Control of Cable-Driven Parallel Robots

Wang, R. & Li, Y., 1 Oct 2023, In: IEEE Robotics and Automation Letters. 8, 10, p. 6731-6738 8 p.

A Rotor Flywheel Robot: Land-air Amphibious Design and Control

Wang, C., Zhang, Y., Li, C., Wang, W. & Li, Y., Oct 2023, *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 2023*. Institute of Electrical and Electronics Engineers Inc., p. 4341-4346 6 p. (IEEE International Conference on Intelligent Robots and Systems).

A survey on the mechanical design for piezo-actuated compliant micro-positioning stages

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Guo, Z., Ma, H., Li, Q., Li, Y., Liu, Z. & Song, Q., Sept 2023, In: Microsystem Technologies. 29, 9, p. 1333-1341 9 p.

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Cable-Driven Unmanned Aerial Manipulator Systems for Water Sampling: Design, Modeling, and Control

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Finite Displacement Screw-Based Mobility Analysis of a New Four-DoF 1T3R Cable-Driven Parallel Mechanism

Yang, S., Zhu, Z., Wang, H. & Li, Y., 1 Jun 2023, *Advances in Mechanism, Machine Science and Engineering in China - Proceedings of IFToMM CCMMS 2022*. Liu, X. (ed.). Springer Science and Business Media Deutschland GmbH, p. 1529-1540 12 p. (Lecture Notes in Mechanical Engineering).

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Ma, H., Liu, W., Xiong, Z., Li, Y., Liu, Z. & Sun, Y., Dec 2022, In: IEEE Transactions on Industrial Informatics. 18, 12, p. 8682-8691 10 p.

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Identification of Preisach Model Parameters Based on an Improved Particle Swarm Optimization Method for Piezoelectric Actuators in Micro-Manufacturing Stages

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An obstacle avoidance algorithm for space hyper-redundant manipulators using combination of RRT and shape control method

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Analysis and multi-objective optimal design of a planar differentially driven cable parallel robot

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FEA-based optimization and experimental verification of a typical flexure-based constant force module

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Adaptive Barrier Sliding Mode Control Considering State Dependent Uncertainty

Liu, C., Ma, H., Tian, S. & Li, Y., Oct 2021, In: IEEE Transactions on Circuits and Systems II: Express Briefs. 68, 10, p. 3301-3305 5 p.

Design and control of a novel electromagnetic actuated 3-DoFs micropositioner

Xiao, X., Xi, R., Li, Y. (Corresponding Author), Tang, Y., Ding, B., Ren, H. & Meng, M. Q. H. (Corresponding Author), Oct 2021, In: Microsystem Technologies. 27, 10, p. 3763-3772 10 p.

Design of a spatial constant-force end-effector for polishing/deburring operations

Ding, B., Zhao, J. & Li, Y., Oct 2021, In: International Journal of Advanced Manufacturing Technology. 116, 11-12, p. 3507-3515 9 p.

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Disturbance estimator-based switching function for discrete-time sliding mode control systems with control saturation

Ma, H., Xiong, Z., Li, Y. & Liu, Z., Aug 2021, In: Transactions of the Institute of Measurement and Control. 43, 12, p. 2715-2723 9 p.

一种仅含转动关节的三自由度一平两转并联机构

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A novel variable exponential discrete time sliding mode reaching law

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Development of a 3-DOF Flexible Micro-Motion Platform Based on a New Compound Lever Amplification Mechanism

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Design and analysis of a novel compact XYZ parallel precision positioning stage

Xie, Y., Li, Y., Cheung, C. F., Zhu, Z. & Chen, X., May 2021, In: MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS. 27, 5, p. 1925-1932 8 p.

A Hybrid Active and Passive Cable-Driven Segmented Redundant Manipulator: Design, Kinematics, and Planning

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大行程微点胶机构的设计与分析

Li, X., Ding, B., Zhou, S. & Li, Y., Apr 2021, In: Chongqing Daxue Xuebao/Journal of Chongqing University. 44, 4, p. 37-51 15 p.

A new structure to achieve large-scale damage-avoiding capture based on compliant mechanism

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Improved Mechanical Design and Simplified Motion Planning of Hybrid Active and Passive Cable-Driven Segmented Manipulator with Coupled Motion

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Activities

Technical Committee for Micromachines, IFToMM (External organisation)

Li, Y. (Member)
1 Jan 2017 → ...

Technical Committee for Robotics and Mechatronics, IFToMM (External organisation)

Li, Y. (Member)
1 Jan 2017 → ...

American Journal of Engineering and Applied Sciences (Journal)

Li, Y. (Editorial board member)
1 Jan 2016 → ...

IEEE Access (Journal)

Li, Y. (Associate editor)
1 Jan 2016 → ...

IEEE Transactions on Automation Science and Engineering (Journal)

Li, Y. (Associate editor)
1 Jan 2016 → 31 Dec 2020

Technical Committee on Mechatronic Systems, IFAC (External organisation)

Li, Y. (Member)
1 Jan 2015 → ...

IEEE Transactions on Automation Science and Engineering (Journal)

Li, Y. (Associate editor)
1 Jul 2009 → 31 Dec 2013

IEEE/ASME Transactions on Mechatronics (Journal)

Li, Y. (Associate editor)

1 Jan 2009 → 31 Dec 2012

Journal of Robotics (Journal)

Li, Y. (Associate editor)

1 Sept 2008 → 30 Nov 2019

International Journal of Control, Automation and Systems (Journal)

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1 Jun 2008 → ...

Awards

Projects