WENJIE CHEN
Email: cwj_zheda@hotmail.com

Education

Ph.D. Mechanical Engineering University of California, Berkeley 08/2012
Dissertation: Intelligent Control of Robots with Mismatched Dynamics and Mismatched Sensing
Advisor: Professor Masayoshi Tomizuka

Master Mechanical Engineering University of California, Berkeley 05/2009
Thesis：Hybrid Adaptive Friction Compensation of Indirect Drive Trains Using Joint Sensor Fusion
Advisor: Professor Masayoshi Tomizuka

Bachelor Mechatronic Engineering Zhejiang University 06/2007
Chu-Kochen College, Advanced Class of Engineering Education, Ranking: 1/55
Thesis：Coordinated Motion Control of Biaxial Linear-Motor-Driven Stage
Advisor: Professor Bin Yao, Professor Qingfeng Wang

Work Experiences

State Key Laboratory of High-end Heavy-load Robots (Midea Blue-Orange Lab)
Executive Deputy Director 12/2019 – Present

- Lead and oversee overall operations, including technology research and project managements of the laboratory
- Took the lead in major national projects like the National Key R&D Program's 'Intelligent Robots' initiative, the MIIT's Industrial Base Reconstruction and High-Quality Manufacturing Development project, and the MIIT's Industrial Chain Lead Project. Focusing on making core technologies independent, advanced, and intelligent, tackled the critical 'bottleneck' technologies in heavy-duty robots and their key components, achieved breakthrough improvements in overall machine performance, applied robotized manufacturing technologies to key national industries, and supported the future development of strategic industries

Midea Group, Corporate Research Center, Robotics Institute
Director 12/2019 – Present

- Responsible for the overall operations and technology leadership of the institute, and built a nearly hundred-strong global team of professionals combining industry and academic expertise
- As the group's leading research institution in robotics and automation, focused on laying out and exploring core technologies, cutting-edge technologies, and fundamental common technologies in the field
- Led the team to break through industry-leading key technologies in the core components of robots, mechatronic design, control systems, and functional safety. Successfully commercialized products like precision reducers, servo motors, intelligent controllers, heavy-duty robots, AMRs/AGVs, and safety sensors, and have also successfully incubated new businesses such as reducers and integrated joint modules. This has ensured the group's strategy of vertical integration in the robotics field and greatly enhanced the competitiveness of robot-related products and businesses

Huazhong University of Science and Technology, Wuxi Research Institute
Distinguished Research Fellow 01/2024 – Present

Southern University of Science and Technology of China, School of Engineering
Professor of Practice 10/2020 – 10/2023

Zhejiang University, ZJU-UIUC Institute, Adjunct Associate Professor **01/2019 – 12/2021**

Sihe Robotics, CTO & Partner **07/2018 – 11/2019**

- Led and managed the company's R&D team and projects, focusing on industrial AI and robotics
- Explored and established technology strategies to achieve the company's business goals, including the implementation of products in areas like warp-knitted fabric AI online quality inspection and transformer defect detection

FANUC Corporation, Basic Research Institute, Robotics Software Research Department
Principal Engineer **10/2017 – 06/2018**

- Technical leader for next-generation robot software development, focusing on motion planning and control, optimization and learning, human-robot collaboration, etc.
- Led cutting-edge robotics research collaborations with renowned universities as the technical lead

FANUC Corporation, Robotics Institute, Learning Robot Development Department
Principal Engineer **11/2013 – 09/2017**

- Responsible for algorithm research and technical development for the company's star product "learning robots", proposed intelligent performance regulation methods suitable for high-speed heavy-load conditions
- Technical leader for next-generation robot concept controller development, including motion planning and control, optimization and learning, human-robot collaboration, etc.
- Led advanced robotics research collaborations with renowned universities as the technical lead

University of California, Berkeley, Mechanical Systems Control Laboratory
Postdoctoral Researcher **08/2012 – 10/2013**

- Led the design and control of exoskeleton robots in research on brain-machine interface
- Led intelligent control research for robotic arms, including control, motion planning, sensor fusion, system modeling, and identification

Honors and Awards

Talent Awards:

- **Guangdong Province's Pearl River Talent Program** - Science & Technology Innovation Leading Expert 2022
- **Zhejiang Province Thousand Talents Program Expert** 2019
- **Technology Star Award** (Highest Honor for Group R&D), Midea Group 10/2022
- Block Grant Award, University of California, Berkeley 01/2011
- **Chiang-Chen Overseas Student Scholarship**, China 2007
  Awarded annually to 10 selected overseas Chinese students.

Sci & Tech Awards:

- **First Prize**, 2025 Guangdong Province Technological Invention Award, Ranked 3/15
  "Key Technologies and Systems of High-Stability Mobile Manipulation Robots for Semiconductor Manufacturing" 06/2026

- **Grand Prize**, 2025 Pearl River Machinery Industry Science and Technology Progress Award, Ranked 3/15
  "Key Technologies and Systems of High-Stability Mobile Manipulation Robots for Semiconductor Manufacturing" 03/2026
- **Grand Prize**, 2025 Guangdong Mechanical Engineering Society - Science and Technology Progress Award, Ranked 3/15
  "Key Technologies and Systems of High-Stability Mobile Manipulation Robots for Semiconductor Manufacturing" 03/2026
- **First Prize**, 2025 China Electrotechnical Society (CES) – Science and Technology Progress Award, Ranked 6/15
  "Key Technologies and Equipment for Thermal-Electrical Fault Early Warning and Control in PV-Storage-Charging Systems " 12/2025
- **Third Prize**, 2025 China Machinery Industry Science and Technology Award, Ranked 1/5
  "Research and Application of Domestic Heavy-Duty Robot Servo Motors with High Power Density, High Dynamics, and High Reliability. " 10/2025
- **Third Prize**, 2024 China Machinery Industry Science and Technology Award, Ranked 1/5
  "Key Technologies and Applications of High Power Density, High Torque Density Integrated Robot Drive Wheel Module" 12/2024
- **Second Prize**, 2024 China General Chamber of Commerce (CGCC) - Science and Technology Progress Award, Ranked 4/10
  "Research and Application of Key Technologies for High-Precision and Long-Life Harmonic Reducers in Industrial Robots " 12/2024
- **Second Prize**, 2024 China General Chamber of Commerce (CGCC) - Science and Technology Progress Award, Ranked 5/10
  "Key Technologies and Commercialization of High Power Density, High Torque Density Integrated Robot Drive Wheel Module" 12/2024
- **Third Prize**, 2024 China Association of Automation (CAA) – Science and Technology Progress Award, Ranked 4/5
  "Key Technologies and Commercialization of High Power Density, High Torque Density Integrated Robot Drive Wheel Module" 12/2024
- **Third Prize**, 2024 China Federation of Logistics & Purchasing (CFLP) – Entrepreneurship Award, Ranked 1/6
  "Key Technologies and Applications of High Power Density, High Torque Density Integrated Robot Drive Wheel Module" 08/2024
- **Second Prize**, 2024 China Association of Inventions (CAI) – Entrepreneurship Award, Ranked 1/6
  "Key Technologies and Commercialization of High Power Density, High Torque Density Integrated Robot Drive Wheel Module" 07/2024
- **Second Prize,** 2023 Guangdong Province Machinery Industry Science and Technology Award, Ranked 3/10
  "Key Technologies and Applications of Harmonic Drive with High Precision and Long Life" 03/2024
- **Gold Medal**, the 48th **Geneva International Exhibition of Inventions,** Ranked 1/13
  "Safety Platform for Robot Dongfeng Controller" 04/2023
- **Gold Medal**, the 48th **Geneva International Exhibition of Inventions,** Ranked 1/18
  "AGV Integrated Robot Drive Wheel Module" 04/2023
- **First Prize, "Chaoxiang Elite Leadership Plan"**, Intelligent Manufacturing Entrepreneurship Competition, Haining, Zhejiang 2018
- **Third Place**, Big Ideas @ Berkeley Innovation Competition, “The PikaPen” 04/2012

  "Social Information Technology" category, Top 5 out of 125 teams

Paper Awards:

- **Best Conference Paper Finalist**, 16th IEEE International Conference on CYBER Technology in Automation, Control, and Intelligent Systems (IEEE-CYBER 2026) 2026
- **Best Student Paper Finalist**, 10th IFAC Symposium on Mechatronic Systems (MECHATRONICS) 2025
- **Best Application Paper Finalist**, the 12th IEEE International Conference on Automation Science and Engineering (CASE) 2016
- **Best Student Paper Finalist**, IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM) 2015
- **Best Student Paper Finalist**, 6th IFAC Symposium on Mechatronic Systems (MECHATRONICS) 2013
- **Best Paper in Session**, ASME Dynamic Systems and Control Conference (DSCC) 2012

Professional Titles

Research Program Referee:

- Guideline Drafting Expert & Review Expert, "Intelligent Robot" Key Special Project, National Key R&D Program, China (2024-)
- External Referee, Hong Kong Research Grants Council (RGC) (2013, 2014, 2016, 2017, 2020)
- Guideline Drafting Expert, Guangdong Provincial Key R&D Program (2025-)
- Review Expert, Guangdong Provincial Basic and Applied Basic Research Fund Projects (2024-)

Professional Awards Committee Member:

- IEEE/IFR IERA Award (Innovative Entrepreneurship Award in Robotics and Automation) (2017)

Industry Associations:

- Member, Technical Committee on Co-robot, Chinese Association of Automation (CAA) (2025-)
- Vice Chair, Robotics and Intelligent Manufacturing Branch, Guangdong Mechanical Engineering Society / Guangdong Automation Society (2024-)

Consulting Expert, Advisor & Academic Committees:

- Member, Expert Committee, Intelligent Robots and Equipment Innovation Center, National Technology Innovation Center of the Guangdong-Hong Kong-Macao Greater Bay Area (2026-)
- Member, Academic Committee, Institute of Robotics, Southern University of Science and Technology of China (2025-)
- Member, Academic Committee, Shenzhen Intelligent Robotics and Flexible Manufacturing Key Laboratory (Southern University of Science and Technology of China) (2024-)

Journal Editorial Board:

- Editorial Board Member, International Journal of Advanced Robotics Systems (IJARS) (2013-)

International Conference Committees:

- Publication Co-Chair, 2025 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)
- Program Committee, 2016 ASME International Symposium on Flexible Automation (ISFA)

- Associate Editor, 2016 American Control Conference (ACC)
- Associate Editor & Session Organizer, 2015 ASME Dynamic Systems and Control Conference (DSCC)
- Associate Editor, 2015 American Control Conference (ACC)
- Session Organizer, 2014 ASME Dynamic Systems and Control Conference (DSCC)
- Program Committee, 2013 IEEE International Conference on Information and Automation (ICIA)
- Program Committee, 2013 IEEE International Conference on Robotics and Biomimetics (ROBIO)
- Session Chair, 2013 ASME Dynamic Systems and Control Conference (DSCC)

Journal Reviewer:

- IEEE Transactions on Robotics (T-RO)
- IEEE Transactions on Industrial Electronics (TIE)
- IEEE Transactions on Industrial Informatics (TII)
- IEEE/ASME Transactions on Mechatronics (TMECH)
- IEEE Transactions on Control Systems Technology (TCST)
- IEEE Transactions on Automation Science and Engineering (T-ASE)
- ASME Journal of Dynamic Systems, Measurement, and Control (JDSMC)
- Robotics and Computer Integrated Manufacturing (Elsevier-RCIM)
- Robotics and Autonomous Systems (RAS)
- International Journal of Advanced Robotic Systems (IJARS)
- International Journal of Intelligent Robotics and Applications (JIRA)
- Advanced Robotics (RSJ-AR)
- Asian Journal of Control (AJC)
- Control and Cybernetics Sensors (MDPI Journal)
- Journal of Zhejiang University Science C (Computers & Electronics) (ZUSC)

Academic Conference Reviewer:

- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE Conference on Decision and Control (CDC)
- American Control Conference (ACC)
- IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)
- ASME Dynamic Systems and Control Conference (DSCC)
- ASME International Symposium on Flexible Automation (ISFA)
- IFAC Symposium on Robot Control (SYROCO)
- IEEE International Conference on Information and Automation (ICIA)
- IEEE International Conference on Robotics and Biomimetics (ROBIO)

Technical Standards

1. "Test Method for Dynamic and Static Stiffness of Industrial Robots", 20255698-T-604, **National Standard**, 2025
2. "Performance Requirements and Test Methods for Industrial Heavy-Duty Mobile Robots", 20250118-T-604, **National Standard**, 2025
3. "Industrial Robot Dynamic Stability Test Method", GB/T 45509-2025, **National Standard**, 2025
4. "Technical Requirements for Robot Adaptability", GB/T 44589-2024, **National Standard**, 2024
5. "Robot Integrated Joint Performance and Test Methods", GB/T 43200-2023, **National Standard**, 2023
6. "Intelligent Classification Evaluation Specifications for Home Service Robots", T/CIE 174-2023, Group Standard, 2023

7. "Guidelines for Robotic Design of Household Appliances", T/CAS 576-2022, Group Standard, 2022

Patents

63 Granted (listed below, including 55 inventions), 73 Pending (including 56 inventions)
Countries: China, Japan, USA, Germany

Patent Application Publication Number	Title	Type
CN106514712B	物体的姿势计算系统	Invention
CN106584489B	具备计算传感器的位置和方向的功能的机器人系统	Invention
CN106965171B	具备学习功能的机器人装置	Invention
CN107756423B	机器人控制装置	Invention
CN108422420B	具有学习控制功能的机器人系统以及学习控制方法	Invention
CN108687770B	自动地生成机器人的动作轨迹的装置、系统以及方法	Invention
CN108932363B	形状识别装置、形状识别方法以及计算机可读介质	Invention
CN109202942B	手控制装置、手控制方法以及手的模拟装置	Invention
CN109421049B	机器人系统	Invention
CN110355774B	手控制装置及手控制系统	Invention
CN110385694B	机器人的动作示教装置、机器人系统以及机器人控制装置	Invention
CN110722550B	机器人系统	Invention
CN116079763B	一种机器人、安全扭矩关断电路及安全扭矩控制方法	Invention
CN116100576B	一种移动机器人及其安全监测模块	Invention
CN116100577B	扭矩关断模块、方法、安全控制模块及机器人	Invention
CN116117839B	一种移动机器人及其安全控制系统	Invention
CN118254154B	传动设备及机器人动力机构	Invention
CN118381489B	信号产生电路、定时电路、安全控制模块及机器人	Invention
CN118386253B	扭矩关断模块、扭矩关断方法、安全控制模块及机器人	Invention

CN118578369B	机器人控制方法、装置、机器人及存储介质	Invention
CN216649479U	驱动电机和动力设备	Utility model
CN220261019U	一种机器人的安全控制系统、扭矩关断模块及机器人	Utility model
CN220261031U	一种移动机器人及其安全控制电路	Utility model
CN220816434U	摆线齿轮传动组件、减速机和工业机器人	Utility model
CN221033826U	传动组件、减速器和工业机器人	Utility model
CN221221299U	传动组件、减速器和工业机器人	Utility model
CN223671264U	直线关节模组及机器人	Utility model
DE102016012065B4	Robotersystem mit Funktion zum Berechnen von Position und Ausrichtung eines Sensors	Invention
DE102017000063B4	Robotereinrichtung mit Lernfunktion	Invention
DE102017118276B4	Robotersteuerungsvorrichtung	Invention
DE102018001026B4	Robotersystem mit einer lernenden Steuerungsfunktion und lernendes Steuerungsverfahren	Invention
DE102018107857B4	Vorrichtung, System und Verfahren zur automatischen Erzeugung eines Bewegungspfads eines Roboters	Invention
DE102018115451B4	Greifersteuereinrichtung, Greifersteuerverfahren und Greifersimulationseinrichtung	Invention
DE102018214272B4	Robotersystem	Invention
DE102019108787B4	Handsteuerungsvorrichtung und Handsteuerungssystem	Invention
DE102019109624B4	Roboterbewegungseinlernvorrichtung, Robotersystem und Robotersteuerung	Invention
DE102019118202B4	Robotersystem	Invention
JP6174654B2	センサの位置と向きを算出する機能を備えたロボットシステム	Invention
JP6208724B2	物体の姿勢算出システム	Invention
JP6386516B2	学習機能を備えたロボット装置	Invention
JP6499716B2	形状認識装置、形状認識方法及びプログラム	Invention
JP6514156B2	ロボット制御装置	Invention

JP6564433B2	ロボットシステム	Invention
JP6640792B2	ハンド制御装置、ハンド制御方法、およびハンドのシミュレーション装置	Invention
JP6680720B2	ロボットの動作軌跡を自動で生成する装置、システム、および方法	Invention
JP6823015B2	ロボットシステム	Invention
JP6826069B2	ロボットの動作教示装置、ロボットシステムおよびロボット制御装置	Invention
JP6841852B2	制御装置及び制御方法	Invention
JP6912415B2	ハンド制御装置およびハンド制御システム	Invention
JP7111498B2	ロボットの制御装置およびロボットの制御方法	Invention
JP7718770B2	ロボット、移動ロボット及びその安全制御システム	Invention
US10254741B2	Robot apparatus having learning function	Invention
US10507581B2	Robot system	Invention
US10507583B2	Robot control device	Invention
US10521687B2	Shape recognition device, shape recognition method, and program	Invention
US10618164B2	Robot system having learning control function and learning control method	Invention
US10744654B2	Gripper control device, gripper control method, and gripper simulation device	Invention
US10814485B2	Device, system, and method for automatically generating motion path of robot	Invention
US11130236B2	Robot movement teaching apparatus, robot system, and robot controller	Invention
US11207788B2	Hand control apparatus and hand control system	Invention
US12030187B2	Robot system	Invention
US9937620B2	Robot system having function to calculate position and orientation of sensor	Invention
WO2023124714A1	开关门装置和电器设备	PCT

Publications

International Journal Publications

(* for corresponding author) (23 out of 24 papers indexed in both **SCI** and **EI**)

1. **Wenjie Chen***, and Masayoshi Tomizuka, "Dual-Stage Iterative Learning Control for MIMO Mismatched System with Application to Robots with Joint Elasticity," *Control Systems Technology, IEEE Transactions on*, vol. 22, no. 4, pp. 1350-1361, July 2014 [DOI] [PDF]

2. **Wenjie Chen***, and Masayoshi Tomizuka, "Direct Joint Space State Estimation in Robots with Multiple Elastic Joints," *Mechatronics, IEEE/ASME Transactions on*, vol. 19, no. 2, pp. 697-706, April 2014 [DOI] [PDF]

3. **Wenjie Chen***, Kyoungchul Kong, and Masayoshi Tomizuka, "Dual-Stage Adaptive Friction Compensation for Precise Load Side Position Tracking of Indirect Drive Mechanisms," *Control Systems Technology, IEEE Transactions on*, vol. 23, no. 1, pp. 164-175, January 2015 [DOI] [PDF]

4. **Wenjie Chen***, and Masayoshi Tomizuka, "Comparative Study on State Estimation in Elastic Joints," *Asian Journal of Control*, vol. 16, no. 3, pp. 818-829, May 2014 [DOI] [PDF]

5. Jonathan Asensio, **Wenjie Chen***, and Masayoshi Tomizuka, "Feedforward Input Generation Based on Neural Network Prediction in Multi-Joint Robots," *Journal of Dynamic Systems, Measurement, and Control*, 136 (3), 031002, May 2014 [DOI] [PDF]

6. Pedro Reynoso-Mora*, **Wenjie Chen**, and Masayoshi Tomizuka, "A Convex Relaxation for the Time-optimal Trajectory Planning of Robotic Manipulators along Predetermined Geometric Paths," *Optimal Control Applications and Methods*, vol. 37, no. 6, pp. 1263-1281, Nov./Dec. 2016 [DOI] [PDF]

7. Junkai Lu*, Kevin Haninger, **Wenjie Chen**, Masayoshi Tomizuka, Suraj Gowda, and Jose M. Carmena, "Design of a Passive Upper Limb Exoskeleton for Macaque Monkeys," *ASME Journal of Dynamic Systems, Measurement, and Control*, 138(11), 111011 (Jul 27, 2016) [DOI] [PDF]

8. Zheng Chen*, Fanghao Huang, **Wenjie Chen**, Junhui Zhang, Weichao Sun, Jiawang Chen, Jason Gu, and Shiqiang Zhu, "RBFNN-based Adaptive Sliding Mode Control Design for Delayed Nonlinear Multilateral Tele-robotic System With Cooperative Manipulation," *IEEE Transactions on Industrial Informatics*, vol. 16, no. 2, pp. 1236-1247, February 2020 [DOI] [PDF]

9. Rui Tu, Hui Yang*, Heyun Lin, Hanlin Zhan, Di Wu, Minghu Yu, Liang Chen, and **Wenjie Chen**, "Investigation of a novel consequent-pole flux-intensifying memory machine," *Energies*, 2022, vol. 15, no. 15, pp. 5501-5515, 2022. [DOI] [PDF]

10. W. Liu, H. Yang*, H. Lin, H. Zhan, **W. Chen**, D. Wu, and M. Yu, "Design tradeoff between saliency ratio and PM flux linkage in variable flux memory machines," *IEEE Transactions on Energy Conversion*, VOL. 38, NO. 1, pp. 562-572, March 2023. [DOI] [PDF]

11. Hanlin Zhan*, Yiyang Xu, Huajie He, Di Wu, Hui Yang, **Wenjie Chen**, and Dianguo Xu, "Operation Analysis and Torque Performance Optimization of a Novel Self-Aligning Limited-Angle Vibration Torque Machine," in *IEEE Transactions on Industry Applications*, vol. 60, no. 1, pp. 312-320, Jan.-Feb. 2024 [DOI] [PDF]

12. Shulei Huang, Xinhao Guo, Zhuo Long, Xiaoguang Ma, **Wenjie Chen**, Wenjie Lin, Runda Jia, Puhong Duan, and Xiaoyu Jiang, "Fault Diagnosis of Harmonic Drives Based on Markov Field Graph Information," in *IEEE Sensors Journal*, vol. 24, no. 12, pp. 19891-19900, 15 June, 2024 [DOI] [PDF]

13. Rui Tu, Hui Yang*, Heyun Lin, Hanlin Zhan, Liang Chen, **Wenjie Chen**, Di Wu, and Minghu Yu, "Electromagnetic-Thermal Coupled Design of Halbach-Array Axial-Flux PM Machine for Direct-Drive

Automated Guided Vehicle," in *IEEE Transactions on Transportation Electrification*, 19 June 2024 [DOI] [PDF]

14. Jian Guan, Daqi Wu, Liuming Zhang, Gang Wang, **Wenjie Chen***, Wenjie Lin, Hui Zhao, Pengpeng Bai, Yu Tian, and Wei Song, "The friction behavior and wear mechanism of RV reducer gear steel (20CrMo) subjected to three different heat treatment processes from −20 °C to 100 °C," in *Journal of Materials Research and Technology*, Volume 32, Pages 2609-2623, September–October 2024 [DOI] [PDF]

15. Heng Xiong, Changrong Guo, Jian Peng, Kai Ding, **Wenjie Chen**, Xuchong Qiu, Long Bai, and Jianfeng Xu, "GOPT: Generalizable Online 3D Bin Packing via Transformer-Based Deep Reinforcement Learning," in *IEEE Robotics and Automation Letters*, Volume 9, Issue: 11, Pages 10335-10342, November 2024 [DOI] [PDF]

16. 关健，吴达祺，章浏明，王刚，**陈文杰***，林文捷，赵辉，田煜, "不同表面处理 20CrMo 与 GCr15 配对摩擦副的极端工况摩擦学行为研究," *摩擦学学报*, pp. 1442-1458, 45 (10), 2025 [DOI] [PDF]

17. Xinyue Zhang, Gang Wang*, Daqi Wu, Jian Guan*, and **Wenjie Chen**, "Contact Load and Elastohydrodynamic Lubrication Analysis of Eccentric Bearings in RV Reducer Considering the Effects of Roller Profile Modification," in *Lubricants*, 13(1):14, 2025 [DOI] [PDF]

18. Jixiang Ding, Zhengding Zheng, Shayu Song, Long Bai, Jianfeng Xu*, Jianguo Zhang, and **Wenjie Chen**, "Toward laser-assisted cutting: A real-time segmentation method for reinforcing particles in particle-reinforced metal matrix composites," in *Computers in Industry*, Volume 169, August 2025, 104305 [DOI] [PDF]

19. Lunan Zheng, Xunhu Tao, Jinjia Guo, Xiaoyan Deng, Xiaoguang Ma*, Tong Jia*, Zhijun Zhang, and **Wenjie Chen**, " An Improved Barrier Neural Network-Based Mutual Collision Avoidance Scheme for Dual Redundant Manipulators," *IEEE Transactions on Industrial Electronics*, Pages 1-13, 23 January 2026 [DOI] [PDF]

20. Haoyang Wu, **Wenjie Chen**, Liheng Tuo, Jiaxin Ren, Linhang Ju, Xingyu Hu, Yixin Shao, Di Shi, Lecheng Ruan, Yan Huang, Bi Zhang, Kunyang Wang, Yanggang Feng*, and Wuxiang Zhang, " A Hybrid Assistive-Resistive Isokinetic Training Robot for Full-cycle Knee Rehabilitation," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 06 February 2026 [DOI] [PDF]

21. Zhanxi Wang, Pengfei Liu, Xiaoyu Zhang, Weiwei Liu, **Wenjie Chen**, Xinliang Wang, Mingxin Yin, Zhe ngle Liao, Xiansheng Qin, and Chen Zheng*, "Robotic pre-drilled Z-pinning approach for enhancing the performance of composite fan blades in aircraft engines," *Robotics and Computer-Integrated Manufacturing*, Volume 97, February 2026, 103104 [DOI] [PDF]

22. Youqi Cao, Jian Zhang, Lin Yang, **Wenjie Chen**, Huayan Pu, Jun Luo, Yangjun Pi*, "Segmented multi-frequency input shaping control for axial vibration suppression of mine winding hoister," *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, pp. 3811-3828, Volume 240, Issue 11, June 2026 [DOI] [PDF]

23. Zheng Chen, Jinna Fu, Fanghao Huang*, Xiaoyu Zhang, **Wenjie Chen**, "Disturbance Observer-Based Trajectory Generator for Fast and Accurate Motion Tracking of Robotic Manipulator With Kinematic and Dynamic Constraints," *IEEE/ASME Transactions on Mechatronics*, pp. 1-12, 08 June 2026 [DOI] [PDF]

24. Zhendao Chen, Haibo Chao, Yanhao He, Che Hou, **Wenjie Chen**, Ning Tan*, "A dual-agent framework for physically grounded and syntactically verifiable industrial robot programming," *Robotica*, pp. 1-18, Published online, 2026 [DOI]

International Conference Papers – Peer Reviewed

(* for corresponding author) (47 out of 51 papers indexed in **EI**):

1. **Wenjie Chen***, and Masayoshi Tomizuka, "Iterative Learning Control with Sensor Fusion for Robots with Mismatched Dynamics and Mismatched Sensing," in *Proceedings of the 2012 ASME Dynamic Systems and Control Conference (DSCC)*, Fort Lauderdale, Florida, USA, pp. 1480-1488, October 17-19, 2012 **(Best Paper in Session Award)** [PDF]

2. **Wenjie Chen***, and Masayoshi Tomizuka, "Load Side State Estimation in Robot with Joint Elasticity," in *Proceedings of the 2012 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, Kaohsiung, Taiwan, pp. 598-603, July 11-14, 2012 [PDF]

3. **Wenjie Chen***, and Masayoshi Tomizuka, "A Two-Stage Model Based Iterative Learning Control Scheme for a Class of MIMO Mismatched Linear Systems," in *Proceedings of the 2012 ASME International Symposium on Flexible Automation (ISFA)*, St. Louis, Missouri, USA, paper No. ISFA2012-7199, June 18-20, 2012 [PDF]

4. **Wenjie Chen***, and Masayoshi Tomizuka, "Estimation of Load Side Position in Indirect Drive Robots by Sensor Fusion and Kalman Filtering," in *Proceedings of the 2010 American Control Conference (ACC)*, Baltimore, Maryland, USA, pp. 6852-6857, June 30-July 2, 2010 [PDF]

5. **Wenjie Chen***, Kyoungchul Kong, and Masayoshi Tomizuka, "Hybrid Adaptive Friction Compensation of Indirect Drive Trains," in *Proceedings of the 2009 ASME Dynamic Systems and Control Conference (DSCC)*, Hollywood, California, USA, pp. 313-320,October 12-14, 2009 [PDF]

6. Junkai Lu*, **Wenjie Chen**, and Masayoshi Tomizuka, "Kinematic Design and Analysis of a 6-DOF Upper Limb Exoskeleton Model for a Brain-Machine Interface Study," in *Proceedings of the 6th IFAC Symposium on Mechatronic Systems (Mechatronics '13)*, Hangzhou, China, pp. 293-300, April 10-12, 2013 **(Best Student Paper Finalist)** [PDF]

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Academic Talks (In addition to the conference paper presentations listed above):

- 06/18/2026 "Research and Practice of Leapfrog Performance Enhancement for Heavy-Duty Robots", *CKSRI Industrial Summit 2026*, Hong Kong University of Science and Technology
- 10/17/2025 "Research and Practice on Leapfrog Performance Enhancement of Next-Generation Heavy-Duty Robots", Keynote Talk， *Robotics Industry Salon: Robots and Intelligent Manufacturing*, Midea Group, Foshan, China
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- 10/31/2023, 12/16/2022, 12/25/2021: "Robotic Intelligence", *College of Engineers, Zhejiang University*, Hangzhou, China.
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- 05/29/2017 "Robotic Learning in Industrial Applications", in Workshop "Recent Advances in Dynamics for Industrial Applications", *the 2017 IEEE International Conference on Robotics and Automation (ICRA)*, Singapore
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- 08/09/2012 "Intelligent Control of Robots with Mismatched Dynamics and Mismatched Sensing", *Ph.D. seminar*, *University of California, Berkeley*
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- 02/28/2012 "Estimation in Robots with Mismatched Sensing", *The 1st International Workshop between University of California Berkeley and Keio University*, Berkeley, CA
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