Curriculum Vitae

HAODONG CHEN

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1.   EDUCATION

8/19 - present	Ph.D. in Mechanical Engineering, 1st year
	Advisor: Dr. Ming C. Leu
	Missouri University of Science and Technology, Rolla, MO, U.S.
9/16 - 6/19	M.S. in Mechanical Engineering
	Hefei University of Technology, Hefei, China
9/12 - 6/16	B.S. in Automobile Engineering
	Hefei University of Technology, Hefei, China
2/14 - 6/14	Exchange Student in Mechanical and Automobile Engineering
	I-Shou University, Kaohsiung, Taiwan

2.   RESEARCH INTERESTS

Human-robot Collaboration, Action Recognition, Robotics, Mechanical System.

3.   GRADUATE COURSES COMPLETED

Advanced Mechanism Theory	90;	Artificial Intelligence Technology	90;
Machine Vision and Application	85;	System Modeling and Computer Simulation	97;
Matrix Theory	91;	Numerical Analysis	88;
Introduction to Robotics	A;	CAD Theory and Practice	A;
Adv Digital Design and Mfg	A;	Intro Finite Element Analysis	A;
Nonlinear Optimization in Machine Learning	A;	Algorithmics II	B;

4.   PROFESSIONAL EMPLOYMENT HISTORY

8/19 - present	Research Assistant of Dr. Ming C. Leu
	Department of Mechanical and Aerospace Engineering,
	Missouri University of Science and Technology, Rolla, MO, USA, 65409

5.   RESEARCH PROJECT

8/19 – 1/2021   "CPS: Synergy: Collaborative Research: Cyber-Physical Sensing, Modeling, and Control with Augmented Reality for Smart Manufacturing Workforce Training and Operations Management". (PI: Z. Yin, Co-PIs: M. C. Leu, R. Qin).

8/19 - present   "NRI: INT: Collaborative Research: Manufacturing USA: Intelligent Human-Robot Collaboration for Smart Factory". (PI: Z. Yin, Co-PI: M. C. Leu).

6. PAPER PUBLICATIONS

Journal Papers

1. "An Integrated Target Acquisition Approach and Graphical User Interface Tool for Parallel Manipulator Assembly," **H. Chen**, Z. Teng, Z. Guo, and P. Zhao, ASME Journal of Computing and Information Science in Engineering, Vol. 20, No. 2, 2020.

2. "Design of a Robotic Rehabilitation System for Mild Cognitive Impairment Based on Computer Vision". **H. Chen**, H. Zhu, Z. Teng, and P. Zhao, 2020. ASME Journal of Engineering and Science in Medical Diagnostics and Therapy, Vol. 3, No. 2, 2020.

Conference Papers

1. "Design of a Real-Time Human-Robot Collaboration System Operated by Dynamic Gestures," **H. Chen**, M. C. Leu, W. Tao and Z. Yin, Proceedings of the ASME 2020 International Mechanical Engineering Congress and Exposition (IMECE 2020), November 13-19, 2020, Portland, OR.

2. "Dynamic Gesture Design and Recognition for Human-Robot Collaboration with Convolutional Neural Networks," **H. Chen**, W. Tao, M. C. Leu, and Z. Yin, Proceedings of the 2020 International Symposium on Flexible Automation (ISFA 2020), Jul. 5-9, 2020, Chicago, IL.

3. "Real-Time Assembly Operation Recognition with Fog Computing and Transfer Learning for Human-Centered Intelligent Manufacturing," W. Tao, M. Al-Amin, **H. Chen**, M. C. Leu, Z. Yin, and R. Qin, Procedia Manufacturing, Vol. 48, Jun. 2020.

4. "Design of Single-DOF Immersive Upper Limb Rehabilitation System via Kinematic Mapping and Virtual Reality," P. Zhao, H. Guan, Y. Zhang, Y. Chen, X. Deng, **H. Chen**, Proceedings of the ASME 2020 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. Volume 10: 44th Mechanisms and Robotics Conference (MR). Virtual, Online. August 17–19, 2020.

5. "Motion Synthesis for Upper-Limb Rehabilitation Motion with Clustering-Based Machine Learning Method," W, Chen*, W. Song, **H. Chen**, Q. Li, and P. Zhao, 2019, Proceedings of the 2019 ASME IMECE Conference, Salt Lake City, USA. Nov. 8 – 14, 2019.

6. "A GUI Software for Automatic Assembly based on Machine Vision," **H. Chen***, Y. Wang, Z. Guo, W. Chen, and P. Zhao, Proceedings of the IEEE 2018 International Conference on Mechatronics, Robotics and Automation (ICMRA 2018), Hefei, PRC. May 15-21, 2018.

7. "A Mechanical Part Sorting Method Based on Fast Template Matching," Y. Wang*, **H. Chen**, K. Zhao, and P. Zhao, Proceedings of the IEEE 2018 International Conference on Mechatronics, Robotics and Automation (ICMRA 2018), Hefei, PRC. May 15-21, 2018.

7. SELECTED PATENTS

"A Fully Automatic Marking Device", Inventors：P. Zhao, **H. Chen**, Y. Wang, W. Chen, K. Zhao, CN Patent No. 201810429329.8, issued.

"A Cognitive Rehabilitation Training System and Training Method", Inventors: P. Zhao, **H. Chen**, Y. Wang, W. Chen, W. Song, CN Patent No. 201811016508.5, issued.

"A Mechanical Assisted Training Equipment and Training Method for Cognitive Rehabilitation Training", Inventors: Ping Zhao, **H. Chen**, H. Zhu, Y. Wang, K. Zhao, CN Patent No. 201811016510.2, issued.

"A Type of Container", Inventors: P. Zhao, Y. Wang, H. Chen, W. Chen, K. Zhao, CN Patent No. 201810286064.0, issued.

"A Garbage Compression Mechanism", Inventors: P. Zhao, Y. Wang, N. Chen, **H. Chen**, W. Chen, Kangren Zhao, CN Patent No. 201810286063.6, issued.

"A Feet-Massage Equipment", Inventors: Ping Zhao, Wenxiu Chen, Kangren Zhao, **Haodong Chen**, Yifan Wang, CN Patent No. 201810177428.1, issued.

"A Linkage Mechanism for Foot Massager", Inventors: Ping Zhao, Wenxiu Chen, Kangren Zhao, **Haodong Chen**, Yifan Wang, CN Patent No. 201810177427.7, issued.

8. ACADEMIC ACTIVITIES & AWARDS

Session Co-organizer：2019 ASME IMECE Conference, Track 4, Session 4-13-2: Data-Driven Design for Rehabilitation Robots.

Reviewer: ASME Journal of Computing and Information Science in Engineering, ASME IMECE 2019 Conference.

Best Oral Presentation Award: 2018 IEEE ICMRA Conference.