

Zhaoyuan Ma

Email : zma3@wpi.edu

Mobile : +1-508-615-9985

<http://zhyma.github.io>

EDUCATION

Worcester Polytechnic Institute

Ph.D. candidate, Robotics Engineering program;

MA, USA

Aug. 2018 - Now

Beijing Institute of Technology

Bachelor of Engineering, School of Information & Electronics; GPA: 2.89/4.0

Beijing, China

Sept. 2007 - June 2011

EXPERIENCE

Worcester Polytechnic Institute

Ph.D. student

Worcester, MA, USA

Aug. 2018 - Now

- Focusing on bimanual motion planning. Developed a perception-motion synergy system for a novel robot rope-wrapping task.

Microsoft Research Asia

Software Engineer

Beijing, China

Sept. 2015 - July 2018

- Developing a robot system that is able to automatically generate life-like and meaningful physical behaviors to accompany its spoken words when processing conversations with humans. Related work was shown at 2017 MSRA academic day.
- Researching the usage of an intermediary language for encoding human movement automatically. Deployed decoders of this language for multiple robot platforms to replicate human motion. Related work was demonstrated to Bill Gates, Paul Allen and Satya Nadella at TechFest 2016 of Microsoft.

Hardware Engineer

May 2013 - Sept. 2015

- Designed and fabricated the world's first flat keyboard (without moving keys) that can deliver haptic keyclick feedback felt locally on each key. Conducted a user study to evaluate how such a feedback might improve typing performance.
- Combined an electrostatic interface with four vibrators to create a wristband to allow users to feel the approximate time in situations where glancing might not be appropriate.

Research Intern

Nov. 2012 - May 2013

- Focusing on adding haptics feedback (friction rendering) to touchscreens.

Beijing Institute of Technology

Master student, research assistant

Beijing, China

June 2011 - Nov. 2012

- Developing automatic test platform for integrated circuits.

PUBLICATIONS

- Zhaoyuan Ma, Jing Xiao, Robotic Perception-motion Synergy for Novel Rope Wrapping Tasks, Robotics and Automation Letters, 2023.
- Zhaoyuan Ma, Xiangrui Zeng, Using GPU to Accelerate Backward Induction for Vehicle Speed Optimal Control, WCX SAE World Congress Experience, 2022.
- Shang Gao, Zhaoyuan Ma, Ryosuke Tsumura, Jakub Kaminski, Loris Fichera, Haichong K Zhang, Augmented immersive telemedicine through camera view manipulation controlled by head motions, Medical Imaging 2021: Image-Guided Procedures, Robotic Interventions, and Modeling, 2021
- Katsushi Ikeuchi, Zhaoyuan Ma, Zengqiang Yan, Shunsuke Kudoh, Minako Nakamura, Describing Upper-Body Motions Based on Labanotation for Learning-from-Observation Robots, International Journal of Computer Vision, 2018.
- Zhaoyuan Ma, Darren Edge, Leah Findlater and Hong Z. Tan, Haptic keyclick feedback improves typing speed and reduces typing errors on a flat keyboard, Proceedings of IEEE World Haptics Conference The 6th Joint Eurohaptics Conference and IEEE Haptics Symposium, 2015.