

Tsung-Chi Lin

Department of Computer Science
Ying Wu College of Computing
New Jersey Institute of Technology
University Heights, Newark, NJ 07102, USA
tsungchi.lin@njit.edu
[Personal Website](#) | [Google Scholar](#) | [PIONEER Lab](#)

Current Position

Assistant Professor New Jersey Institute of Technology, Department of Computer Science	2025–Present Newark, NJ, USA
--	---------------------------------

Education

Ph.D. in Robotics Engineering Worcester Polytechnic Institute Advisor: Jane Li	2018–2023 Worcester, MA, USA
M.S. in Biomedical Engineering National Taiwan University Advisor: Tung-Wu Lu	2012–2014 Taipei, Taiwan
B.S. in Mechanical Engineering Yuan Ze University	2008–2012 Taoyuan, Taiwan

Prior Employment

Postdoctoral Fellow Johns Hopkins University, Department of Computer Science Malone Center for Engineering in Healthcare Intuitive Computing Laboratory, PI: Chien-Ming Huang	2023–2025 Baltimore, MD, USA
Postdoctoral Fellow Worcester Polytechnic Institute, Robotics Engineering Department Robots and Sensors for Human Well-being (ROSE-HUB), PIs: Jing Xiao, Jane Li	2023 Worcester, MA, USA
Associate Researcher Industrial Technology Research Institute, Service Robot Department Mechanical & Mechatronics Systems Research Laboratories	2014–2018 Hsinchu, Taiwan

Publications

Journal Articles

[J4] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. [Perception and Action Augmentation for Teleoperation Assistance in Freeform Tele-manipulation](#). *ACM Transactions on Human-Robot Interaction*, 13(1):1-40, 2024.

- [J3] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **The Impacts of Unreliable Autonomy in Human-Robot Collaboration on Shared and Supervisory Control for Remote Manipulation**. *IEEE Robotics and Automation Letters*, 8(8): 4641-4648, 2023.
- [J2] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **Perception-Motion Coupling in Active Telepresence: Human Behavior and Teleoperation Interface Design**. *ACM Transactions on Human-Robot Interaction*, 12(3):1-24, 2023.
- [J1] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **Intuitive, Efficient and Ergonomic Tele-Nursing Robot Interfaces: Design Evaluation and Evolution**. *ACM Transactions on Human-Robot Interaction*, 11(3):1-41, 2022.

Peer-Reviewed Full Conference Papers

- [C8] **Tsung-Chi Lin**, Yichen Xie, and Chien-Ming Huang. **Let the Body Follow: Coupled Egocentric Control for Whole-Body Robot Teleoperation**. *IEEE-RAS 25th International Conference on Humanoid Robots (in review)*, 2026.
- [C7] **Tsung-Chi Lin**, Juo-Tung Chen, and Chien-Ming Huang. **Reducing Performance Variability and Overcoming Limited Spatial Ability: Targeted Training for Remote Robot Teleoperation**. In *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. IEEE, 2024.
- [C6] Achyuthan Unni Krishnan, **Tsung-Chi Lin**, and Zhi Li. **Human Preferred Augmented Reality Visual Cues for Remote Robot Manipulation Assistance: from Direct to Supervisory Control**. In *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 7034-7039, IEEE, 2023.
- [C5] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **Comparison of Haptic and Augmented Reality Visual Cues for Assisting Tele-manipulation**. In *2022 IEEE International Conference on Robotics and Automation (ICRA)*, pages 9309-9316, IEEE, 2022.
- [C4] Achyuthan Unni Krishnan, **Tsung-Chi Lin**, and Zhi Li. **Design Interface Mapping for Efficient Free-form Tele-manipulation**. In *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 6221-6226, IEEE, 2022.
- [C3] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **How People Use Active Telepresence Cameras in Tele-manipulation**. In *2021 IEEE International Conference on Robotics and Automation (ICRA)*, pages 3808-3815, IEEE, 2021.
- [C2] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **Shared Autonomous Interface for Reducing Physical Effort in Robot Teleoperation via Human Motion Mapping**. In *2020 IEEE International Conference on Robotics and Automation (ICRA)*, pages 9157-9163, IEEE, 2020.
- [C1] **Tsung-Chi Lin**, Achyuthan Unni Krishnan, and Zhi Li. **Physical Fatigue Analysis of Assistive Robot Teleoperation via Whole-body Motion Mapping**. In *2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 2240-2245, IEEE, 2019.

Patent

[P1] **Tsung-Chi Lin**, Jyun-Liang Pan, Kai-Jen Pai, Zhong-We Liao, Yen-Chung Chang, Szu-Han Tzao, and Ching-Yi Liu. **Muscle training equipment, muscle training system and muscle training method**. *U.S. Patent No. 11,065,506*, 2021.

Theses

[T2] Ph.D. Dissertation

Tsung-Chi Lin. **Human-Robot Interfaces to Enable Effective and Effortless Control for Remote Manipulation of Tele-nursing Robot**. *Robotics Engineering Department, Worcester Polytechnic Institute*, 2023.

[T1] M.S. Thesis

Tsung-Chi Lin. **Three-Dimensional Finite Element Analysis of the Knee Ligaments During Cycling in Normal Young Subjects**. *Department of Biomedical Engineering, National Taiwan University*, 2014.

Teaching

Instructor New Jersey Institute of Technology, Undergraduate CS 485 Physical AI	Fall 2026
Instructor New Jersey Institute of Technology, Graduate CS 698 Human-Robot Interaction	Spring 2026
Teaching Assistant Worcester Polytechnic Institute, Graduate RBE 595 Special Topic: Humanoid Robotics	Spring 2020
Co-Head Teaching Assistant and Lab Instructor Worcester Polytechnic Institute, Undergraduate RBE 3001 Unified Robotics III: Manipulation RBE 3002 Unified Robotics IV: Navigation	Fall 2019
Teaching Assistant Worcester Polytechnic Institute, Graduate RBE 502 Robot Control	Spring 2019
Project Leader Worcester Polytechnic Institute, Graduate RBE 550 Motion Planning	Spring 2019

Advising

PhD Students Sandeep Chowdary Kotapati (Computer Science, NJIT) Yanxin Gao (Computer Science, NJIT)	2026–Present 2026–Present
Undergraduate Students Johnnuel Magno (Electrical and Computer Engineering Technology, NJIT) Eshan Potdar (Computer Science, NJIT) Moises Lazo (Mechanical Engineering Technology, NJIT)	2026–Present 2026–Present 2026–Present

Visiting Students

Ting-Jan Liu (Marine Environmental Informatics, National Taiwan Ocean University)

Spring 2026

Talks

Physical AI in Everyday Environments

AI Exploration Day, New Jersey Institute of Technology

March 2026

Designing User-Centered Interfaces for Human-Robot Interaction

Department of Computer Science Seminars, New Jersey Institute of Technology

December 2024

Targeted Training for Remote Robot Teleoperation

Laboratory for Computational Sensing and Robotics, Johns Hopkins University

October 2024

Malone Center for Engineering in Healthcare, Johns Hopkins University

April 2024

Human-Robot Interfaces to Enable Effective Control of Assistive Robots

Intuitive Computing Laboratory, Johns Hopkins University

March 2023

Impact of Unreliable Assistive Autonomy on Human-Robot Interaction

Graduate Research Innovation Exchange (GRIE), Worcester Polytechnic Institute

February 2023

Comparison of Haptic and AR Visual Cues for Assisting Tele-manipulation

Graduate Research Innovation Exchange (GRIE), Worcester Polytechnic Institute

February 2022

How People Use Active Telepresence Cameras in Tele-manipulation

Graduate Research Innovation Exchange (GRIE), Worcester Polytechnic Institute

February 2021

Enhancing Human-Robot Interaction Through Physiological Measurements

FORW-RD NSF Research Traineeship (NRT) Program, Worcester Polytechnic Institute

March 2020

Shared Autonomous Interface for Reducing Physical Effort in Robot Teleoperation

Graduate Research Innovation Exchange (GRIE), Worcester Polytechnic Institute

February 2020

Workload-Adaptive Human-Robot Interfaces for Assistive Robots

Graduate Research Innovation Exchange (GRIE), Worcester Polytechnic Institute

February 2020

RBE Symposium and 10th Anniversary Events, Worcester Polytechnic Institute

October 2019

Nation Biomechanics Day, Delsys

April 2019

Assessment of Muscle Effort and Physical Fatigue in Robot Teleoperation

Graduate Research Innovation Exchange (GRIE), Worcester Polytechnic Institute

February 2019

Academic Service

Program Committee

International Conference on Intelligent Robots and Systems (IROS), Associate Editor

2026

International Conference on Human-Robot Interaction (HRI), Area Chair

2025

Organizer

Robotics: Science and Systems **Workshop on Social Intelligence in Humans and Robots**

2024

Journal Reviewer

ACM Transactions on Human-Robot Interaction (THRI)

2020–Present

IEEE Robotics and Automation Letters (RA-L)

2021–Present

Conference Reviewer

International Conference on Human Factors in Computing Systems (CHI)

2025

International Conference on Intelligent Robots and Systems (IROS)	2024–Present
International Conference on Robotics and Automation (ICRA)	2022–Present
International Conference on Human-Robot Interaction (HRI)	2022–Present
International Conference on Ubiquitous Robots (UR)	2020, 2021

Outreach

TouchTomorrow (K-12 Students)

Worcester Polytechnic Institute, Robotics Engineering Department	
<i>Instructed K-12 students on interacting with humanoid robots</i>	2021
<i>Presented research on intuitive control for general-purpose robotic arms</i>	2022

Guest Seminar for Nursing Professionals (Nursing Faculty and Students)

Worcester State University, Nursing School	
<i>Showcased human-centered interfaces for future nursing robots and healthcare workers</i>	2021

Awards and Honors

John C. Malone Postdoctoral Fellowship	2023
Johns Hopkins Malone Center for Engineering in Healthcare, USA	
Postdoctoral Fellowship	2023
WPI Robotics Engineering, USA	
Graduate Student Travel Award	2022
WPI Robotics Engineering, USA	
Best Poster Award	2020
WPI Graduate Research Innovation Exchange (GRIE) poster competition, USA	
The R&D 100 Award	2016
The R&D 100 Awards Committee and R&D Magazine, USA	
Outstanding Research Award	2015
Industrial Technology Research Institute, Taiwan	
Excellent Award	2015
Prospective Creative Competition, Industrial Technology Research Institute, Taiwan	
Research Scholarships	2013–2014
Ministry of Science and Technology, Taiwan	
Best Poster Award	2013
Annual Symposium on Biomedical Engineering & Technology, Taiwan	
Excellent Award	2012
Creative Application of Solar Energy Competition, Ministry of Education, Taiwan	