

Wenjie Lin

w12789@columbia.edu | [Home Page](#) | (+1) 6462694573

EDUCATION

- Columbia University** M.S. in Mechanical Engineering (Robotics and Control), GPA: 3.67/4.0 Sept. 2021-Dec. 2022
- Coursework: Robotics Studio, Artificial Intelligence, Reinforcement Learning, Robot Learning, Evolutionary Algorithm, Introduction to Robotics, Data Science for Mechanical Systems, Digital Signal Processing, Modern Control Theory, Digital Control
- University of Science and Technology Beijing (USTB)** B.E. in Safety Engineering, GPA: 3.75/4.0 Aug. 2016-June. 2020
- UC Berkeley/UCLA Exchange Program** in Mechanical Engineering, GPA: 3.91/4.0, 3.85/4.0 Jan. 2019-Aug. 2019
- Relevant Undergraduate Coursework: Dynamic System and Feedback, Creative Robot Design and Production, Intelligent Control Theory, Mechanical Design, Mechanical Vibration, Elementary Fluid Mechanics, Thermophysics for Applications, Solid Mechanics

PUBLICATIONS AND PROFESSIONAL ACTIVITIES

Publications

- Lin, Wenjie. Deep Reinforcement Learning based Haptic Enhancement for Tele-Diagnosis. In *FUZZ-IEEE, WCCI*, 2022 (Oral)
- Yang, Zhiyuan, Lin Li, Hao Yuan, Yuhao Dong, Kunniang Liu, Lan Lan, Wenjie Lin et al. Evaluation of Smart Energy Management Systems and Novel UV-Oriented Solution for Integration, Resilience, Inclusiveness and Sustainability. In *IEEE International Conference on Universal Village (UV)*. 2020

Reviewer for Conferences

- IEEE International Conference on Universal Village (UV)

RESEARCH EXPERIENCE

Project: Intelligent Glove Design for Primary Palmar Hyperhidrosis Patients Oct. 2022-present

Advisor: Prof. Fumiya Iida, Bio-Inspired Robotics Lab (BIRL), University of Cambridge

- Used to be a primary hyperhidrosis (PH) patient and cured by ETS surgery that has side effects and risks for some patients.
- Proposed a novel Intelligent Glove design as a non-invasive intervention with Reinforcement learning applied to learn the sweating pattern of patients and respond with individualized sweating control utilizing micro cooling fans.

Project: Multi-View Videos Synchronization Feb. 2022-May. 2022

Advisor: Prof. Sunil Agrawal, Robotics and Rehabilitation (RoAR) Lab, Columbia University

- Developed audio and brightness methods for synchronizing multi-view physical-therapy videos for physiologists to analyze the effect of rehabilitation for children with cerebral palsy and improved the algorithms and minimized the error for audio method to 50ms.
- Proposed a systematic solution to multi-view videos synchronization for rehabilitation analysis including deep learning method.

Project: Deep RL-based Haptic Enhancement Framework Sept. 2021-Feb. 2022

Advisor: Dr. Ziwei Wang, Human Robotics, Imperial College London

- Proposed a deep RL-based haptic enhancement framework to facilitate remote palpation without installing force sensors on telesurgery robot
- Lead-authored the paper “Deep Reinforcement Learning based Haptic Enhancement for Tele-Diagnosis” published on WCCI, 2022

Project: Study on Coordination of Subsystems in Smart City May. 2019-present

Advisor: Dr. Yajun Fang, Universal Village Society, MIT

- Constructed a preliminary system connecting energy system with other subsystems, by finding out and analyzing interaction factors of subsystems
- Co-authored the paper “Evaluation of Energy Systems and Novel UV-Oriented Solution for Integration, Resilience, Inclusiveness & Sustainability” published on IEEE, the 5th International Conference on Universal Village
- Working paper: “Primary Hyperhidrosis: A Review of Current Diagnosis and Management and Potential Engineering and Social Interventions”, Wenjie Lin, Yajun Fang. to appear on IEEE-UV 2022

HONORS AND AWARDS

Outstanding Graduate of USTB Jun. 2020

The People’s Scholarship of China Oct. 2019

SKILLSET AND INTERESTS

Language & Tools: C++/C, Python, MATLAB, CAD, ROS, Gazebo/Pybullet, PyTorch/TensorFlow, Adobe PR/AE/PS

Academic Interests: Robotics and Control, UAV, Machine Learning, Computer Vision, Safe Reinforcement learning, SLAM

Hobbies: Wake Surfing, Tennis, Basketball, Reading, Guitar, Singing