

# Wenjie Lin

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## 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: Squirrel Biomechanics and Agile Locomotion Design for Squirrel Robot** Oct. 2022-present

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

- Investigated the biomechanics of squirrel and its application for agile locomotion design of quadruped squirrel robot.
- Planned to utilize modern control algorithms and learning techniques to optimize the gaits.

**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