Wenjie Lin

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EDUCATION

Columbia University M.S. in Mechanical Engineering (Robotics and Control), GPA: 3.7/4.0 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: 3.7/4.0 Aug. 2016-June. 2020

UC Berkeley/UCLA Exchange Program in Mechanical Engineering, GPA: 3.9/4.0, 3.9/4.0 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 spring loaded inverted pendulum model (SLIP) model and Hill's type muscle model for running and its application for agile locomotion design of quadruped squirrel robot.
- Analyzed stability and utilized 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