Wenjie Lin

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EDUCATION

Purdue University Ph.D. Student in Computer and Information Technology (AI for healthcare), GPA: 3.77/4 — Aug. 2023-May. 2028

- Coursework: ECE695 Generative Model, ECE60146 Deep Learning, ECE695 Optimization for Deep Learning, CS501 Computing for Science and Engineering, TECH601 Research Seminar, TECH699 Research PhD Thesis

Columbia University M.S. in Mechanical Engineering (Robotics and Control), GPA: 3.67/4 — Sept. 2021-Dec. 2022

- Coursework: Artificial Intelligence, Reinforcement Learning, Robotics Studio, Robot Learning, Evolutionary Algorithm, Intro to Robotics, Modern Control, Digital Control, Data Science for Mechanical Systems, Digital Signal Processing

University of Science and Technology Beijing (USTB) B.E. in Safety Engineering, GPA: 3.75/4 — Aug. 2016-June. 2020

UC Berkeley/UCLA Exchange Program in Mechanical Engineering, GPA: 3.91/4.0, 3.85/4 — Jan. 2019-Aug. 2019

PUBLICATIONS

- **Wenjie Lin,** Xingyu Li. **GRASNet: A Novel Graph Neural Network for Improving Human Action Recognition and Well-Being Assessment in Smart Manufacturing. Accepted by** *NAMRC 52,* **2024 (Oral)**
- **Wenjie Lin**, Yajun Fang. **Primary Hyperhidrosis: A Systematic Review of Current Status and Potential Interventions.** *IEEE-UV,* **2022 (Oral)**
- **Lin, Wenjie**. **Deep Reinforcement Learning based Haptic Enhancement for Tele-Diagnosis**. *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**. *IEEE-UV,* **2020**

RESEARCH EXPERIENCE

Onsite Research: In-Process Defect Prediction in Additive Manufacturing using Transformer-based Model — Jan. 2024-May. 2024

Advisor: Prof. Xingyu Li, Purdue University

- Established the camera-assisted 3D printing system and collected layer-by-layer image dataset for printed objects.
- Realized accurate pattern prediction for subsequent printed layer utilizing transformer-based deep learning model.

Onsite Research: GRASNet, A Novel Graph Neural Network for Human Action Recognition — Aug. 2023-Jan. 2024

Advisor: Prof. Xingyu Li, Purdue University

- Developed a novel Graph Neural Network model for improving human action recognition and well-being assessment in manufacturing.
- It can outperform other advanced GNN models, and the validation was conducted on NTU RGB+D 120 benchmark dataset.

Onsite Research: 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.

Remote Research: Deep Reinforcement Learning-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.
- First authored the paper "Deep Reinforcement Learning based Haptic Enhancement for Tele-Diagnosis" published on WCCI, 2022.

Projects

- **Medical Image Classification Using Deep Learning for Alzheimer's Detection (Instructed by Prof. John Wright)** [PDF]
  Achieved classification of Alzheimer's Disease with magnetic resonance images and compared two CNN-based models (Python, Deep Learning)
- **Birdman and LarvaBot (Instructed by Prof. Hod Lipson, Columbia University)** [PDF] [Video]
  Mechatronic design and production of bipedal robot "Birdman" and soft robot "LarvaBot" (3D Printing, Gait Optimization using Pybullet)
- **Boxing Robot (Instructed by Prof. Sunil Agrawal, Columbia University)** [PDF] [Video]
  Achieved 3D pose reconstruction of boxing motion captured by markless optical cameras based on deep learning and control algorithms (MATLAB, Deep Learning, PID Control)

HONORS AND AWARDS

Employee Recognition Award for Departmental Achievements (Purdue University) — March. 2024

Presidential Doctoral Excellence Fellowship (Purdue University) — Aug. 2023

Outstanding Undergraduate of USTB / The People's Scholarship of China — June. 2020 / Oct. 2019

SKILLSET:

C++/C, Python, MATLAB, PyTorch/TensorFlow, CAD, ROS, Gazebo/Pybullet, Arduino/Raspberry Pi