

EDUCATION

National Yang Ming Chiao Tung University (NYCU), Hsinchu, Taiwan Fall 2019 - Summer 2022
M.S. in Artificial Intelligence

Advisor: Yu-Chee Tseng and Jen-Jee Chen

Thesis: Low-Resolution Thermal Sensor-Guided Image Synthesis

Yuan Ze University, Taoyuan, Taiwan Fall 2015 - Summer 2019
B.S. in Information Communication

Graduation Project: Development of art installation "Inverted Tinge," a large interactive paint-in-the-water device involving a 12*12 electric motor array submerged in the water. Report: bit.ly/3WFj7Qk

EXPERIENCE

College of Artificial Intelligence, NYCU, Taiwan Mar 2020 - Nov 2021
Research Assistant

- Research on Intelligent Diagnosis of Motor Faults. Led the team to experience with various feature extraction (VAE/GraphAE) networks and clustering analysis techniques (KNN/OC-SVM). Advised by Jen-Jee Chen.
- Development of Target Detection and Tracking System for UAV Fleet. Developed object detection and tracking algorithm, mission control GUI, and 3D map. Advised by Yu-Chee Tseng.

Industrial Technology Research Institute, Hsinchu, Taiwan Jun 2018 - Dec 2018
Research Internship

- Accepted competitively (19%) through DIGI+Talent program held by Ministry of Economic Affairs, Taiwan.
- Assisted the development of lip recognition model for Mandarin speech

SELECTED PROJECTS

Low-Resolution Heatmap Segmentation based on Thermopile Array Sensor 2020
• Collected ground-truth mask using Mask-RCNN on RGB images
• Developed a U-Net like segmentation network

AI-Powered Interactive Trampoline 2020
• Built a neural network to determine landing positions based on ultrasonic sensors
• Design a mini-game GUI for visualization

Undergraduate Research Fellowship, National Science and Technology Council, Taiwan 2018
• Realtime Bed-Exit Detection based on Thermal Array Sensor with Machine Learning (107-2813-C-155-013-H)

Development of Design Optimization System for Heavy-Duty Packaging 2017
• Assisted in the development of evolutionary algorithm and API
• Participated in CATIA CAD/CAE training course and awarded with certifications

PUBLICATIONS

- **Sheng-Yang Chiu***, Yu-Ting Huang*, Chieh-Ting Lin, Yu-Chee Tseng, Jen-Jee Chen, Meng-Hsuan Tu, Bo-Chen Tung, and YuJou Nieh, "Privacy-Preserving Video Conferencing via Thermal-Generative Images" to appear in *IEEE International Conference on Robotics and Automation (ICRA)*, 2023.
- **Sheng-Yang Chiu**, Yu-Chee Tseng, and Jen-Jee Chen, "Low-Resolution Thermal Sensor-Guided Image Synthesis" in *Workshop on Real-World Surveillance: Applications and Challenges in conjunction with IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, Waikoloa, HI, USA, January 3-7, 2023.
- Sheng-Ya Chiu, **Sheng-Yang Chiu**, Yu-Ju Tu, and Chi-I Hsu, "Gesture-based Intention Prediction for Automatic Door Opening using Low-Resolution Thermal Sensors: A U-Net-based Deep Learning Approach," in *Eurasia Conference on IOT, Communication and Engineering (ECICE)*, Yunlin, Taiwan, October 29-31, 2021.
- Wenpei Zheng, **Shen-Yang Chiu**, Jui-Chien Hsieh, and Chaochang Chiu, "Smart Rabbit - A Wearable Device As Intelligent Pacer for Marathon Runners," in *IEEE International Conference on Application Specific Systems, Architectures and Processors (ASAP)*, New York City, NY, USA, July 15-17, 2019.
- **Sheng-Yang Chiu**, Jui-Chien Hsieh, Chi-I Hsu, and Chaochang Chiu, "A Convolutional Neural Networks Approach with Infrared Array Sensor for Bed-Exit Detection," in *International Conference on System Science and Engineering (ICSSE)*, New Taipei City, Taiwan, June 28-30, 2018.

SKILLS

Software Tools: Tensorflow, OpenCV, Numpy, Matplotlib, PyQt, Git, Python, Javascript, and C++

Languages: English and Mandarin