Meng-Chen Lee

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EDUCATION

Ph.D. in Computer Science, University of Houston (UH) Aug. 2020 – May 2025 (expected)
- Cumulative GPA: 3.801/4.0
- Relevant courses taken: Computer Graphics, Machine Learning, Computer Vision, Natural Language Processing

B.S. in Biomedical Engineering, National Cheng Kung University (NCKU) Sept. 2015 – Aug. 2019
- Overall GPA: 3.45/4.3, Upper-division GPA: 3.65/4.3

SKILLS

Research: Computer Graphics, Machine Learning, Computer Vision

Programming Languages: C/C++, Python, MATLAB

Tools: Anaconda, OpenGL, Visual Studio, Vicon, Git, Blender, MotionBuilder

WORK EXPERIENCE

Graduate Teaching Assistant, Department of Computer Science, UH Jan. 2021 - Present
- Designed, assessed, and addressed homework and exam questions for Database, Computer Graphics, and Data Structure courses.

Research Assistant, Medical Device Innovation Center, NCKU Jan. 2020 - Jun. 2020
- Created a user-friendly mobile app for epilepsy detection, enabling convenient access for patients and doctors.

Part-time Research Assistant, Co-op - Brain Navi Biotechnology Co., Ltd. Sep. 2017 - Jan. 2018
- Built an advanced application utilizing depth camera technology to achieve real-time and accurate brain location and orientation tracking, ensuring seamless brain insertion surgeries.

Special Project Teacher, Tainan Bilingual International Education Association Mar. 2017 - Jun. 2017
- Developed an engaging programming course tailored for third-grade elementary school students, introduced fundamentals of coding through hands-on experience of controlling robots with *SNAP!*.

RESEARCH EXPERIENCE

Computer Graphics and Interactive Media Lab (CGIM), UH Aug. 2020 - Present

Multi-party Conversation Dataset
- Used Vicon, Ergoneers Dikablis Glasses and wireless microphone for data capturing.
- Recruited more than 30 people and captured more than 4 hours for each participant.
- Utilized D-Lab, Vicon, MotionBuilder, Python, and MATLAB to manipulate over 2TB of data.

Multi-party Conversation Analysis and Simulation
- Developed a novel metric called Relative Engagement Level (REL) to gauge participant engagement during conversations.
- Integrated multimodal inputs and visualized multi-party conversation using OpenGL.

RELATED PROJECTS

Face Detection in Large Distance, UH Jan. 2023 - May. 2023
- Modified YOLO v8 backbone with transformer layer and integrated with super-resolution for face detection

Covid-19 Detection Based on X-ray Chest Images, UH Sep. 2020 - Dec. 2020
- Conducted a case study on Covid-19 detection based on X-ray chest images.

LEADERSHIPS

Primary Officer, Taiwanese Students Association at UH May. 2022 - May. 2023

Team Leader, Competition - EMedIC, CUHK Hong Kong, Aug. 2018
- Led a team in developing an automated robotic blood-drawing system.

PUBLICATIONS

Lee, Meng-Chen, Trinh, May, & Deng, Zhigang. Multimodal Turn Analysis and Prediction for Multi-party Conversations. International Conference of Multimodal Interaction (ICMI) 2023.

AWARDS

Silver Award - IFMBE Student Design Competition at IUPESM Jun. 2018
- Built a telemedicine device to provide prenatal care in resource-scarce communities

Honorable Mention - Road Ahead Technologies Consultant Corp. Jun. 2018
- Utilized Blender to create a model to repair cranial bone for the 3D scanning competition.