

# Meng-Chen (Martin) Lee

<https://mcmartinlee.github.io/>

UH CS Ph.D.

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## RESEARCH INTERESTS

My research focuses on multi-party conversations in the context of AI/programming, predicting how human managing turns and eye gaze direction, extending to generate realistic conversational gestures.

## EDUCATION

### Ph.D. in Computer Science, University of Houston (UH)

Expected Dec. 2025

- Cumulative GPA: 3.801/4.0
- Courses: Computer Graphics, Machine Learning, Computer Vision, Natural Language Processing, Statistics
- Teaching Assistant: Database, Computer Graphics, and Data Structure

### B.S. in Biomedical Engineering, National Cheng Kung University (NCKU)

Aug. 2019

- Overall GPA: 3.45/4.3, Upper-division GPA: 3.65/4.3
- Courses: Operating System, Algorithm, Data Structure, Linear Algebra, Introduction to Computer Graphics

## SKILLS

**Research:** Multimodal, Computer Graphics, Deep Learning, NLP, Computer Vision

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

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

## PUBLICATIONS

[ICMI'25] Lee, M.C., & Deng, Z. **Enhancing Gaze Prediction in Multi-Party Conversations via Speaker-Aware Multimodal Adaptation.** *Proceedings of the 27th International Conference on Multimodal Interaction (pp. 57-65), Oct. 2025.*

[ICMI'25] Lee, M.C., & Deng, Z. **Learning Multimodal Motion Cues for Online End-of-Turn Prediction in Multi-Party Dialogue.** *Proceedings of the 27th International Conference on Multimodal Interaction (pp. 57-65), Oct. 2025.*

[ICMI'24] Lee, M.C., & Deng, Z. **Online Multimodal End-of-Turn Prediction for Three-party Conversations.** *Proceedings of the 26th International Conference on Multimodal Interaction (pp. 57-65), Nov. 2024.*  
[Best Paper Runner-up Award](#)

[IVA'24] Lee, M.C., Li, W. A., & Deng, Z. **A Computational Study on Sentence-based Next Speaker Prediction in Multiparty Conversations.** *Proceedings of the 24th ACM International Conference on Intelligent Virtual Agents (pp. 1-4), Sep. 2024.*

[ICMI'23] Lee, M.C., Trinh, M., & Deng, Z. **Multimodal turn analysis and prediction for multi-party conversations.** *Proceedings of the 25th International Conference on Multimodal Interaction (pp. 436-444), Oct. 2023.*

## RESEARCH EXPERIENCE

### Research Assistant at UH CGIM

Aug. 2020 - Present

- Built large-scale 3D multimodal datasets (speech, motion, gaze) for multi-party conversation modeling.
- Developed real-time end-of-turn prediction with PLM-GRU with gesture cues.
- Designed DialogueDiffu, a diffusion-based dyadic gesture synthesis framework combining contrastive multimodal pretraining with latent motion modeling to generate semantically aligned co-speech gestures (TOG submission).
- Proposed speaker-aware gaze prediction models using cross-modal transformers and contextual embeddings.

### Research Assistant at NCKU MDIC

Jan. 2020 - Jun. 2020

- Created a user-friendly mobile app for epilepsy detection, enabling convenient access for patients and doctors.

## PROFFESIONAL EXPERIENCE

### Research Intern, Microsoft

May. 2025 - Aug. 2025

- Built a module that allows voice-based conversational agent to interrupt and back-channel.

### 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.

SELECTED PROJECTS

|  |                      |
|--|----------------------|
| <b>Face Detection in Large distance (FaDiLD)</b>   | Jan. 2023 - May 2023 |
| <ul style="list-style-type: none"> <li>• Enhanced YOLOv8 with transformer layers, achieving detection accuracies of 93.74%, 91.63%, and 76.21% on WiderFace benchmarks.</li> </ul> |                      |
| <b>Detecting Minimal Semantic Units and their Meanings (DiMSUM)</b>  | Jan. 2023 - May 2023 |
| <ul style="list-style-type: none"> <li>• Finetuned BERT model for Multiword Expression (MWE) and Supersence prediction.</li> </ul>   |                      |

SERVICE AND LEADERSHIP

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|---|------|
| <b>Reviwer, IEEE Transactions on Visualization and Computer Graphics (TVCG)</b> | 2025 |
| <b>Reviwer, IEEE Transactions on Visualization and Computer Graphics (TVCG)</b> | 2024 |
| <b>President of University of Houston Taiwanese Student Association (UHTSA)</b> | 2021 |

AWARDS

|   |                  |
|---|------------------|
| <b>Best Paper Runner-up Award - ICMI 2024</b>                         | Nov. 2024        |
| <b>Best Paper Award - UH Computer Science Ph.D. Research Showcase</b> | Mar. & Oct. 2024 |

TEACHING EXPERIENCE

|   |   |
|---|---|
| <b>TA, COSC 6372: Computer Graphics</b>   | Fall 2021, Spring 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025 |
| <b>TA, COSC 2430: Programming and Data Structures</b>   | Summer 2022   |
| <b>TA, COSC 3380: Database Systems</b>  | Spring 2021   |
| <b>Special Project Teacher, Tainan Bilingual International Education Association</b>  | Mar. 2017 - Jun. 2017   |
| <ul style="list-style-type: none"> <li>• Developed an engaging programming course tailored for third-grade elementary school students and introduced fundamentals of coding through hands-on experience of controlling robots with <i>SNAP!</i>.</li> </ul> |   |