Jong Ho (Michael) Lee

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Summary — As an HCI and Accessibility researcher, my research mainly focuses on accessible computer-mediated communication. I am particularly interested in configurable AI-powered augmentative and alternative communication (AAC) technology, and how such AAC tools should account for conversational agency for people with language disabilities. I am experienced in building software prototypes and conducting accessible HCI research for people with disabilities.

Education

University of Maryland - College Park — **College Park, MD, USA**
Doctor of Philosophy (Ph.D.) in Information Studies — *Expected 2026*
Current Advisor: Dr. Stephanie Valencia Valencia

University of California - Irvine — **Irvine, CA, USA**
Master of Science (M.S.) in Computer Science — *Jun 2020*

Chung-Ang University — **Seoul, South Korea**
Bachelor of Science (B.S.) in Computer Science and Engineering — *Mar 2018*

Research Experience

Human-Computer Interaction Lab (HCIL), University of Maryland - College Park — **Aug 2021 – Present**
PhD Researcher — *College Park, MD, USA*

- **Project: DIY AI-powered Augmentative and Alternative Communication (AAC) Tools for Aphasia**
  - Advisor: Dr. Stephanie Valencia[2]
  - Leading a research project investigating how visual programming can be utilized for building customizable generative AI pipelines to support people with aphasia's communication goals (aphasia: impairment of language processing)
  - Planning co-design workshops incorporating card-sorting techniques and physical design activities for people with aphasia
  - Building a prototype mobile app using React Native and Google Gemini's API to use as a tangible probe in the co-design workshops
  - Technologies: Javascript/Typescript, React Native (Expo), Google Gemini API
- **Project: Supporting Goal-Setting in Stroke Rehabilitation (Publication: [C-1])**
  - Advisors: Dr. Eun Kyoung Choe, Dr. Ivan Lee
  - Organized and led a research project examining how multimodal interaction in mobile technology can address accessibility issues for stroke survivors and support goal-setting in rehabilitation
  - Built a mobile self-tracking app named *GoalTrack* using cross-platform frameworks (React Native with Typescript)
  - Designed and conducted accessible in-person user studies for *GoalTrack* with 13 people with disabilities
  - Used R to analyze quantitative data and Nvivo to analyze qualitative data to find concrete design recommendations for multimodal interfaces for stroke survivors
  - Technologies: Javascript/Typescript, React Native, Android Java SDK, Microsoft Cognitive Services API

Personal Informatics Everyday (PIE) Lab, University of California - Irvine — **Dec 2019 – May 2021**
Graduate Research Assistant — *Irvine, CA, USA*

- **Project: Supporting Self-tracking App Selection (Publication: [C-2])**
  - Advisors: Dr. Daniel Epstein, Dr. Jessica Schroeder
  - Designed and conducted semi-structured interviews with 18 participants to understand how app stores can be better designed for self-trackers.
  - Analyzed qualitative data to understand how people tried out self-tracking apps and created design guidelines for app distribution platforms
  - Skills: Semi-structured Interviews, Low-fidelity Prototyping, Thematic Analysis

Networked Systems Lab (NSL), Chung-Ang University — **Jan 2017 – Aug 2018**
Undergraduate Research Assistant — *Seoul, South Korea*

- **Project: Investigating Acoustic Localization Techniques in a Network of Drones (Undergraduate Thesis)**
  - Advisor: Dr. Jeongyeup Paek
  - Investigated the feasibility of using acoustic signals to find distances between drones by implementing a time-of-arrival ranging algorithm using Android's Java SDK.
  - Designed and conducted computer communication experiments by building a testbed of custom-built drones.

Virtual Reality Lab, Chung-Ang University **Jan 2015 – Jan 2016**
Undergraduate Research Assistant *Seoul, South Korea*

- **Project: Designing Immersive Gesture Interfaces for Flying in Virtual Reality (Publication: [E-1])**
  - Advisor: Dr. Bong-Soo Sohn
  - Built a 3D virtual world compatible with Oculus Rift DK2 and Microsoft Kinect using Unity3D and C#
  - Helped design 4 user interfaces (keyboard control, superman gesture, birdlike gesture, hand gesture) to navigate the 3D virtual world
  - Helped conduct in-person user studies for the 3D virtual world with 31 participants

Publications

C=Conference proceedings or journal articles (fully peer-reviewed), E=Extended abstract or poster presentation (lightly peer-reviewed)

[C-1] **Jong Ho Lee**, Sunghoon Ivan Lee, and Eun Kyoung Choe. 2024. **GoalTrack: Supporting Personalized Goal-Setting in Stroke Rehabilitation with Multimodal Activity Journaling**. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)* Vol. 8, No. 4. https://doi.org/10.1145/3699723 *(to appear)*

[C-2] **Jong Ho Lee**, Jessica Schroeder, and Daniel A. Epstein. 2021. **Understanding and Supporting Self-Tracking App Selection**. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)* Vol. 5, No. 4. https://doi.org/10.1145/3494980 *(Presented at Ubicomp/ISWC 2022)*

[C-3] Daniel A. Epstein, Clara Caldeira, Mayara Costa Figueiredo, Xi Lu, Lucas M. Silva, Lucretia Williams, **Jong Ho Lee**, Qingyang Li, Simran Ahuja, Qiuer Chen, Payam Dowlatyari, Craig Hilby, Sazeda Sultana, Elizabeth V. Eikey, and Yunan Chen. 2021. **Mapping and Taking Stock of the Personal Informatics Literature**. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)* Vol. 4, No. 4. https://doi.org/10.1145/3432231

[C-4] Moonbeom Kim, **Jong Ho Lee**, and Jeongyeup Paek. 2018. **Neutralizing BLE Beacon-based Electronic Attendance System using Signal Imitation Attack**. In *IEEE Access* Vol. 6. https://doi.org/10.1109/ACCESS.2018.2884488

[E-1] Yea Som Lee, Wang Duk Seo, **Jong Ho Lee**, Bong-Soo Sohn. 2016. **Immersive Gesture Interface Design for HMD Based Virtual World Navigation**. In *Extended Abstracts of HCI Korea 2016* pages 9–14.

Skills, Languages, and Technologies

Languages	C, C++, Python, Javascript/Typescript, Java, Swift, C#, R, Bash, SQL
Technologies	React, React Native, Android Java SDK, iOS Swift, Pytorch, Unity3D, AWS, Nodejs, Linux, MySQL, Fine-tuning Language Models
Research Methods	Usability Testing, Diary Studies, Ecological Momentary Assessment (EMA), Online Surveys, Design Workshops, Accessible HCI Research
Data Analysis	General Linear Models (e.g., ANOVA, ANCOVA) and Inferential Statistics in R, Thematic Analysis

Teaching Experience

INST326 Object Oriented Programming in Python **Aug 2023 – Present**
Graduate Teaching Assistant *University of Maryland - College Park*

ICS 33 Intermediate Programming in Python **Jan 2020 – Jun 2020**
Graduate Teaching Assistant *University of California - Irvine*

IN4MATX 133 - User Interaction Software **Sep 2019 – Dec 2019**
Graduate Teaching Assistant *University of California - Irvine*

Services

Academic Paper Reviews

- The ACM Conference on Human Factors in Computing Systems (CHI) (2024)
- Late-Breaking Works in ACM CHI (2023)

Student Volunteering in Academic Conferences

- The ACM Conference on Human Factors in Computing Systems (CHI) (2022)
- The ACM Conference on Designing Interactive Systems (DIS) (2022)

Awards and Honors

Dean's Fellowship **2021**
University of Maryland - College Park

Department Secondary Honor Scholarship (Tuition Remission) **2017**
Chung-Ang University