

Jong Ho Lee

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Summary — My research mainly focuses on accessible computer-mediated communication. I am particularly interested in configurable AI-enhanced augmentative and alternative communication (AAC) technology, and how such AAC technology should account for conversational agency for people with language disabilities. I am experienced in building software prototypes and conducting accessible human-centered design research for people with disabilities.

Education

University of Maryland - College Park <i>Doctor of Philosophy (Ph.D.) in Information Studies</i> <i>Current Advisor: Dr. Stephanie Valencia Valencia</i>	College Park, MD, USA <i>Expected 2026</i>
University of California - Irvine <i>Master of Science (M.S.) in Computer Science</i>	Irvine, CA, USA <i>Jun 2020</i>
Chung-Ang University <i>Bachelor of Science (B.S.) in Computer Science and Engineering</i>	Seoul, South Korea <i>Mar 2018</i>

Research Experience

Human-Computer Interaction Lab (HCIL), University of Maryland - College Park <i>PhD Researcher</i>	Aug 2021 – Present <i>College Park, MD, USA</i>
<ul style="list-style-type: none">• Project: DIY AI-powered Augmentative and Alternative Communication (AAC) Tools for Aphasia<ul style="list-style-type: none">· Advisor: Dr. Stephanie Valencia²· 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 a formative study with virtual semi-structured interviews and co-design workshops to probe participants' perspectives on visual programming for creating personalized AAC technology.	
Project: Supporting Goal-Setting in Stroke Rehabilitation (Publication: [C-1])	
<ul style="list-style-type: none">· 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 <i>GoalTrack</i> using cross-platform frameworks (React Native with Typescript)· Designed and conducted accessible in-person user studies for <i>GoalTrack</i> 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 <i>Graduate Research Assistant</i>	Dec 2019 – May 2021 <i>Irvine, CA, USA</i>
<ul style="list-style-type: none">• Project: Supporting Self-tracking App Selection (Publication: [C-2])<ul style="list-style-type: none">· 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 <i>Undergraduate Research Assistant</i>	Jan 2017 – Aug 2018 <i>Seoul, South Korea</i>
<ul style="list-style-type: none">• Project: Investigating Acoustic Localization Techniques in a Network of Drones (Undergraduate Thesis)<ul style="list-style-type: none">· Advisor: Dr. Jeongyeup Paek· Investigated the feasibility of using acoustic signals to find distances between drones by implementing a time-of-arrival distance measuring algorithm using Android's Java SDK.· Designed and conducted computer communication experiments by building a testbed of custom-built drones.· Technologies: C, C++, Android Java SDK, PX4 Open-Source Drone Platform, Signal Processing	

• 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 proceeding or journal article (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>
- [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] Moonbeam 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.

Manuscripts Under Submission

- [U-1] Anonymous Authors, **Design Probes for AI-Driven AAC: Addressing Complex Communication Needs in Aphasia**.
Under submission

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, CMake, Classical Machine Learning, Natural Language Processing (N-gram models, RNN, Transformers)

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

Graduate Teaching Assistant

Aug 2023 – Present

University of Maryland - College Park

ICS 33 Intermediate Programming in Python

Graduate Teaching Assistant

Jan 2020 – Jun 2020

University of California - Irvine

IN4MATX 133 - User Interaction Software

Graduate Teaching Assistant

Sep 2019 – Dec 2019

University of California - Irvine

Services

Academic Paper Reviews

- The ACM Conference on Human Factors in Computing Systems (CHI): 2025 (1 Special Recognition for Outstanding Reviews)
- The ACM Conference on Human Factors in Computing Systems (CHI) - Late Breaking Works: 2023
- PACM Human-Computer Interaction, CSCW (2025)

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
<i>University of Maryland - College Park</i>	
Department Secondary Honor Scholarship (Tuition Remission)	2017
<i>Chung-Ang University</i>	