

RESEARCH INTEREST	Human-computer interaction; LLM-supported interactive systems; Human-in-the-loop AI; Accessible interfaces for complex systems
EMPLOYMENT	<i>MammaMe (Independent Venture)</i> , USA 2024 – Present Independent AI/HCI Researcher & Developer <i>Google AR</i> , San Francisco, USA Summer 2022 Ph.D. Researcher - Internship <i>Google Health</i> , USA (remote) Summer 2021 Ph.D. Researcher - Internship <i>The University of Illinois at Chicago</i> , USA 2017 – 2023 Teaching & Research Assistant, Department of Computer Science <i>Korea University</i> , South Korea 2015 – 2016 Research Assistant, Department of Computer Science and Engineering
EDUCATION	Ph.D., Computer Science 2024 Department of Computer Science, College of Engineering University of Illinois at Chicago , Chicago, Illinois, USA <i>Thesis topic:</i> Supporting older adults navigate feature-rich mobile UIs with voice input M.Eng., Computer Science and Engineering 2017 Department of Computer Science and Engineering Korea University , Seoul, Republic of Korea <i>Thesis topic:</i> Proprioceptive pointing and selection of distant objects for optical see-through based augmented reality. B.S., Computer and Communication Engineering 2015 Department of Computer Science and Engineering Korea University , Seoul, Republic of Korea B.S., Public Health 2012 Department of Health Education and Management Ewha Womans University , Seoul, Republic of Korea

PROJECTS & METHODS

WORK & PROJECT EXPERIENCE	MammaMe(Food Safety Search App for Expectant Mothers) 2024 Developed a Kotlin Multiplatform application delivering food safety information. Implemented an LLM-based autonomous pipeline to resolve data sparsity by retrieving and synthesizing unstructured web data. Conducted iterative UX optimizations to ensure reliable interpretation of safety recommendations by non-expert users. [Live Web Repo (KR)], [Code Repo (EN)] Designing Mobile Interface Accessible to Older Adults 2017 – 2023 Investigated how older adults interact with mobile interfaces and identified key challenges in everyday use. Based on these insights, developed a voice-based interaction technique with LLM-supported
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interpretation to help users navigate interfaces more efficiently and accurately. [\[Source Code\]](#)
Presented at ASSETS 2020, CHI 2023, and CHI 2024

Internship Project

Google AR Summer 2022
Demonstrated a novel AI-driven AR interaction method on Microsoft HoloLens.

Google Health Summer 2021
Designed and developed an application to support large-scale data collection and AI model training.

Personal Air Pollution Monitoring Technologies 2018 – 2020

Developed a pollution exposure management tool designed for older adults and their caregivers, which monitors environmental pollutants—specifically PM2.5 and ambient noise—associated with cognitive impairment in aging populations. [\[Android Repo\]](#), [\[Server Repo\]](#)
Presented at Ubicomp/ISWC 2018 and HCII 2020

Blurry (Sticky) Finger: Proprioceptive Pointing and Selection of Distant Objects for Optical See-through based Augmented Reality 2015, 2016

Presented an AR interaction technique that enables users to aim, point, and select distant real-world objects using a blurred finger, proprioceptive feedback, and ocular dominance.
Presented at VRST 2015(poster) / ISMAR 2016(demo) / ICAT 2016(full paper)

3D Crime Scene Reconstruction and Evidence Analysis System 2014–2016

Developed integrated 3D reconstruction systems for indoor crime scenes using smartphone and Kinect sensors, enabling virtual scene exploration from first-person perspectives. The work also included coordinating CCTV footage with 3D video data to generate textured 3D facial models from 2D evidence images, supporting advanced forensic analysis.
National Forensic Service (NFS), Ministry of the Interior-affiliated, South Korea

SKILLS

Programming & Systems —

C/C++; Java; Python; Kotlin (Multiplatform); Android; Web and Backend (HTML, CSS, JavaScript, React, FastAPI, REST APIs); OpenGL; OpenCV

Machine Learning & LLM Systems —

PyTorch; Hugging Face (Transformers); Applied machine learning; Transformer-based model training and fine-tuning; LLM-assisted decision and reasoning systems; Dataset curation, preprocessing, and evaluation pipelines

Research Methods & HCI Practice —

Qualitative and quantitative user studies; Usability testing and interviewing; Wizard-of-Oz prototyping; Requirements analysis; User study and survey design; Data analysis and visualization

Tools & Prototyping —

Figma; Unity3D; 3ds Max; Atlas.ti; Adobe Creative Suite (Premiere, Photoshop);MATLAB

SCHOLARLY OUTPUT

PEER-REVIEWED
CONFERENCE
PAPERS

Yu, J. and Chattopadhyay, D. (2024). Reducing Search Space on Demand Helps Older Adults Find Mobile UI Features as Quickly as Younger Adults. *CHI2024* (1–22) ACM.

Yu, J., Parde, N., and Chattopadhyay, D. (2023). “Where is history”: Toward Designing a Voice Assistant to help Older Adults locate Interface Features quickly. *CHI2023* (1–19) ACM.

Yu, J., & Chattopadhyay, D. (2020). “Maps are hard for me”: How Older Adults Struggle with Mobile Maps. *ASSETS2020* (1–8) ACM.

Yu, J. and Chattopadhyay, D. (2020). Supporting Older Adults in Locating Mobile Interface Features with Voice Input. *ASSETS2020* (1–4). ACM.

Sakhnini, N., **Yu, J.**, Jones, R. M. and Chattopadhyay, D. (2020). Personal Air Pollution Monitoring Technologies: User Practices and Preferences. *HCI2020* (481–498) Springer.

Sakhnini, N., **Yu, J.**, and Chattopadhyay, D. (2018). myCityMeter: Helping Older Adults Manage the Environmental Risk Factors for Cognitive Impairment. *UbiComp2018* (235–238) ACM.

Best Poster Honorable Mention, top 1.5%

Yu, J., & Kim, G. J. (2016). Blurry (sticky) finger: proprioceptive pointing and selection of distant objects for optical see-through based augmented reality. *ICAT-EGVE2016* (49–56). Eurographics Association.

Yu, J., & Kim, G. J. (2016). Blurry (sticky) finger: proprioceptive pointing and selection of distant objects for optical see-through based augmented reality. *ISMAR2016* Adjunct (336–337) IEEE.

Yu, J. & Kim, G. J. (2015). Resolving view difference between eye and camera for proprioceptive pointing and selection in augmented reality applications. *VRST2015* (198–198) ACM.

Yu, J. & Kim, G. J. (2015). Eye strain from switching focus in optical see-through displays. *INTERECT2015* (550–554) Springer.

HONORS
& AWARDS

Graduate Student Award for Exceptional Research Promise, College of Engineering, UIC	2023
Project Grant (Team leader), Korean Federation of Science & Technology Soc. \$2000.	2021
UbiComp/ISWC 2018 Best Poster Honorable Mention.	2018
Project Grant, Korean Federation of Science & Technology Soc. \$5,000.	2018
Peter and Deborah Wexler Graduate Student Award Scholarship \$5,000.	2017
Creative Challenger Scholarship, Korea University, Republic of Korea.	2013
Minister’s Award for a healthy culture, Ministry of Health and Welfare, Republic of Korea.	2010

SERVICE

PEER-REVIEW

IUI: ACM International Conference on Intelligent User Interfaces	2023 - 2026
CHI: ACM Conference on Human Factors in Computing Systems	2020, 2022 - 2024
MobileHCI: ACM SIGCHI Conference on Mobile Human-Computer Interaction	2023, 2024
EICS: ACM SIGCHI Symposium on Engineering Interactive Computing Systems	2022 - 2024
ISMAR: IEEE International Symposium on Mixed and Augmented Reality	2020 - 2024
CUI: ACM Conversational User Interfaces	2023
ACMMM: ACM International Conference on Multimedia	2021
OzChi: Australian Conference on Human-Computer Interaction	2020