Ja Eun Yu

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http://jaeun.dev, **https://yujaa.github.io/portfolio**

RESEARCH INTEREST

Human-computer interaction; **Applied machine learning**;
Aging and accessibility; Interaction technique; Mobile interfaces; Virtual and augmented reality

EMPLOYMENT

Google AR, San Francisco, USA — Summer 2022
Ph.D. Researcher - Internship

Google Health, USA (remote) — Summer 2021
Ph.D. Researcher - Internship

The University of Illinois at Chicago, USA — 2017 – 2023
Teaching & Research Assistant, Department of Computer Science

Korea University, 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
Thesis topic: 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
Thesis topic: 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

RESEARCH

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 (accepted)***

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 Struggles 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. ***HCII2020*** (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 outstanding contribution toward healthier drinking culture, Ministry of Health and Welfare, Republic of Korea.	2010

Project Experience

Designing Mobile Interface Accessible to Older Adults 2017 – 2023

The study began by exploring how older adults use mobile interfaces and identifying the difficulties they encounter during usage. Based on the findings, an interaction technique was developed that utilizes voice input and large language models (LLMs) to assist older adults in navigating mobile interfaces efficiently and accurately. *Presented at ASSETS 2020, CHI 2023, and CHI 2024*

Internship Project

Google AR Summer 2022

Prototyping and demonstrating an AR experience with a new interaction technique on HoloLens2.

Google Health Summer 2021

Designing a controlled experiment and implementing data collection application.

Personal Air Pollution Monitoring Technologies 2018 – 2020
A pollution exposure management tool for older adults and their caregivers. It measures the pollutants shown to be associated with cognitive impairment in older adults: PM2.5 and ambient noise.
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
Presenting the AR interaction method in which one uses the unfocused blurred finger, the sense of proprioception and ocular dominance, to aim, point and directly select a distant object in the real world for the purpose of further interaction.
Presented at VRST 2015(poster) / ISMAR 2016(demo) / ICAT 2016(full paper)

3D Indoor Crime Scene Reconstruction using a Smart Phone and Kinect 2014, 2016
Using the acquired indoor crime scene models, reconstruct the scene in 3D virtual environment. Users can explore the scene in first person view (victim or criminal) and simulate the scenarios of the crime in virtual space.
National Forensic Service (NFS), Ministry of the Interior-affiliated, South Korea

Coordination of CCTV and 3D Video and 3D based evidence collecting system 2015
System that creates textured 3D face model with detected and captured images of face in 2D video.
National Forensic Service (NFS), Ministry of the Interior-affiliated, South Korea

Eye Strain from Switching Focus in Optical See-through Displays 2014, 2015
Measure the level of fatigue caused by the frequent refocusing between real and virtual objects and its relation to the focusing duration. *Presented at INTERACT 2015(poster).*

Skills

Programming Languages and libraries—
Expertise: C/C++, Java, Android Development, Python, OpenGL, OpenCV
Proficient: Web programming (HTML, CSS, Javascript, jQuery), R, Arduino, VHDL, Matlab
Software—
Atlas.ti, Figma, Unity3D, 3Ds Max, Adobe Creative Suite (Premier, Photoshop)
Research Skills —
Applied ML, Qualitative/quantitative study and analysis, Usability Testing, Client interviewing, Requirements analysis, User study design, Survey design, Sketching, Data visualization

Service

Peer-Review

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