

Sunok Lee

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Research Interest

AI Literacy Education for children, youth, migrants, and people with disability, Critical thinking competency, Accessibility, Inclusive AI system, and Human-centered AI.

CURRENT POSITION

Postdoctoral Researcher @[Trust-M](#) in the Department of Computer Science at Aalto University.

EDUCATION

- | | |
|-------------|---|
| 2020 – 2024 | Korea Advanced Institute of Science & Technology (KAIST)
Ph.D. Industrial design
Daejeon. South Korea, Feb.2020– Feb. 2024 (expected)
Advisor: Sangsu Lee |
| 2018 – 2020 | Korea Advanced Institute of Science & Technology (KAIST)
M.S. Industrial design
Daejeon, South Korea, Feb.2018–Feb.2020
Advisor: Sangsu Lee |
| 2014 | University of North Carolina at Charlotte (UNCC)
Visiting student, Fine art Sculpture
NC USA, Jan.2014–Dec.2014 |
| 2011 – 2016 | Hongik University
B.F.A. Metal arts and Design / Sculpture / Teaching profession certificate of fine art
Seoul, South Korea, Feb. 2011–Feb.2016 |

PUBLICATION

- | | |
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| 2024 | Sunok Lee , Dasom Choi, Hyeonjeong Im, Yunjae Josephine Choi, Minha Lee, Hwajung Hong, and Sangsu Lee. Fostering School-aged Children's Critical Thinking Competency about AI Through Art-based Education. (<i>under review</i>)

Fedor Vitiugin, Sunok Lee , Henna Paakki, Anastasiia Chizhikova, and Nitin Sawhney. Unraveling Code-Mixing Pattern in Migration Discourse: Automated Detection and Analysis of Online Conversations on Reddit. |
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(ICWSM Workshop, accepted)

Lucy Truong, **Sunok Lee**, and Nitin Sawhney. Enhancing Conversations for Migrant Counseling: Designing for Trustworthy AI-mediated Collaboration between Migrants and Service Advisors. (CSCW 2024, accepted with minor revision)

Minha Lee, Jian Jun, **Sunok Lee**, and Sangsu Lee. Understanding the Initial Journey of UX Designers Toward Sustainable Interaction Design: A Focus on Digital Infrastructure Energy Reduction. (DIS 2024, conditionally accepted)

Dasom Choi, **Sunok Lee**, Sung-In Kim, Kyungah Lee, Hee Jeong Yoo, Sangsu Lee, and Hwajung Hong. Unlock Life with a Chat(GPT): Integrating Conversational AI with Large Language Models into Everyday Lives of Autistic Individuals. In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24). Association for Computing Machinery, New York, NY, USA.

Huisung Kwon, Yunjae Josephine Choi, **Sunok Lee**, and Sangsu Lee. Unveiling the Inherent Needs: GPT Builder as Participatory Design Tool for Exploring Needs and Expectations of AI with Middle-Aged Users. In Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24). Association for Computing Machinery, New York, NY, USA.

2023

Sunok Lee, Dasom Choi, Minha Lee, Jonghak Choi, and Sangsu Lee. Fostering Youth's Critical Thinking Competency about AI through Exhibition. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Association for Computing Machinery, New York, NY, USA.

Dasom Choi, Sung-In Kim, **Sunok Lee**, Hyunseung Lim, Hee Jeong Yoo, and Hwajung Hong. Love on the spectrum: Toward Inclusive online dating experience of autistic individuals. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Association for Computing Machinery, New York, NY, USA.

Yeon Soo Kim, Hyeonjeong Im, **Sunok Lee**, Haena Cho, and Sangsu Lee. We Speak Visually": User-generated Icons for Better Video-Mediated Mixed Group Communications Between Deaf and Hearing Participants. In

- Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Association for Computing Machinery, New York, NY, USA.
- 2022 **Sunok Lee**, Minha Lee, and Sangsu Lee. "What If Artificial Intelligence Become Completely Ambient in Our Daily Lives?" Exploring Future Human-AI Interaction through High Fidelity Illustrations. International Journal of Human-Computer Interaction (2022): 1-19. (SCIE)
- Yeonsoo Kim, **Sunok Lee**, and Sangsu Lee. A Participatory Design Approach to Explore Design Directions for Enhancing Video conferencing Experience for Non-signing Deaf and Hard of Hearing Users. ACM ASSETS 2022 (Poster)
- Minha Lee, Wonyoung Park, **Sunok Lee**, and Sangsu Lee. Distracting Moments in Video Conferencing: A Look Back at the Pandemic Period. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22). Association for Computing Machinery, New York, NY, USA.
- 2021 **Sunok Lee** and Sangsu Lee. Hey Alexa, Where are you? A Drawing Study to Understand the User's Mental Model of Environment Surrounding the Conversational Agent. International Association of Societies of Design Research Conference (IASDR'21).
- Kwangmin Cho, **Sunok Lee**, Wonyoung Park, Minha Lee, Wooseok Kim, and Sangsu Lee. Understanding stakeholders' needs for an Emergency Mobile Hospital at an infectious disease situation. International Association of Societies of Design Research Conference (IASDR'21).
- Juhyeong Park, **Sunok Lee**, and Sangsu Lee. MODU: A Story-Based Empathy Expression Training Game for Children with Mild Intellectual Disability and Borderline Intellectual Functioning. In Interaction Design and Children (IDC '21).
- Haena Cho*, Hyeonjeong Im*, **Sunok Lee***, and Sangsu Lee. 2021. "I want more than 👍" User-generated Icons for Better Video-mediated Communications on the Collaborative Design Process. In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems. (*All authors contributed equally.)
- 2020 **Sunok Lee**, Minji Cho, and Sangsu Lee. "What if conversational agents became invisible?" Comparing users' mental models according to physical entity of AI speaker. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies 4.3 (2020): 1-24.

2019 **Sunok Lee**, Sungbae Kim, and Sangsu Lee. "What does your Agent look like?": A Drawing Study to Understand Users' Perceived Persona of Conversational Agent. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems.

TEACHING EXPERIENCE

COURSES TAUGHT

2024 **Aalto University, Computer Science Department / Lecturer**
March 21–June 6
Conversational AI & Voice Interaction (<https://aaltovai.wordpress.com>)

2022 **Sangmyung University / Lecturer**
Feb 2021–Dec 2021

- Organized curriculum and conducted a lecture on the interface and system design for 120 design students for a year.

SPECIAL LECTURE

2023 **Electronics and Telecommunications Research Institute / Invited talk**
Dec 2023
Seminar title: *Understanding the Perspectives of Human Beyond What Numbers Can Show, Qualitative Research in HCI*

Ewha Women University, Graduate School of Education / Invited talk
Aug 2023
Seminar title: *HCI X Education X Art X UX design.*

Aalto University, Trust-M project / Invited talk
Sep 2023
Seminar title: *Participatory Design for Inclusive User Interfaces Centering on Conversational AI.*

Naver / Invited talk
June 2023
Seminar title: *Designing the future: How design researchers shape user experience for emerging technologies.*

Bugok Middle School / Lecturer
May 2023 – June 2023
Fostering middle school students' AI literacy through Art X AI curriculum.

Southern University of Science and Technology / Invited talk

Feb 2023

Seminar title: *Transform the caption of your design work from "Personal project" to "Award-winning project"*

2022

Samsung Heavy Industries / Lecturer

Aug 2022

- Organized curriculum and conducted a lecture on the design methodology and user experience design.

TEACHING ASSISTANT

2022 – 2023

Need finding practice

2022

User experience design

2018 – 2020

System design

2018, 2023

Interface design

WORK EXPERIENCE

2024

Aalto University Computer Science Department / Post-doctoral Researcher (@Trust-M)

Jan 2024– Present

- Integrating LLM-driven chat bots in the public services for migrants.
- Exploring AI-mediated communication tool for supporting better communication between service advisor and migrants.

2023

Samsung electronics / Lead UX Researcher (@KAIST)

Jul 2023– Sep 2023

- Discovering future concepts and user scenarios for next wearable devices.

NH Investments & Security / UX, UI designer (@KAIST)

Jan 2023–Mar 2023

- Designing user participatory stock-related events based on gamification.

2022

Naver (Alto) / UX designer, Research assistant (@KAIST)

Mar 2022–Jul 2022

- Developed use cases for real-time collaboration based on the Conflict-free replicated data type (CRDT) algorithm to support simultaneous editing of multiple users.

- Prototyping user experience and interface design (<https://yorkie.dev/>).

NH Investments & Security / UX, UI designer (@KAIST)

Jan 2022–Mar 2022

- Revealed the usability problems of the investment app on the current foldable smartphone.
- Developed the design direction to provide a UI optimized for the foldable smartphones.
- Established design guidelines to provide a better user experience for foldable smartphones.

AI with Weird Wonderland / Chief curator

Nov 2021– Mar 2022

- Moderated collaborative workshop with AI developers, HCI designers, and artists to design AI-related exhibits and exhibition programs.
- Designed and curated an exhibition for provoking critical thinking about AI.

2020 – 2021

KAIST MCM Research Center / Project lead (@KAIST)

Aug 2020– Nov 2021

- Conducted user research through focus group interviews and surveys to understand infectious disease situations related to stakeholders' needs and challenges.
- Created design requirements and solutions for mobile expandable negative pressure wards equipped with advanced medical facilities.
- Created scenario video production to promote design solution (<https://youtu.be/x8OKaTsmup8>).

2019

Samsung electronics / UX researcher (@KAIST)

Aug 2019 – Dec 2019

- Conducted user study to understand users' expectations for proactive voice assistants in smart homes.
- Created user scenarios for the user-voice assistant interaction.
- Developed UX design guidelines for proactive voice assistant BIXBY.

SL / UX researcher (@KAIST)

May 2019 – Nov 2019

- Conducted user research for user-autonomous vehicle

- interaction. Developed user journey map of driving the autonomous vehicle.
 - Created design guidelines for better communication methods using the front display of autonomous vehicles.
- 2018 **Naver / UX research researcher and Project lead (@KAIST)**
 May 2018 – Nov 2018
- Conducted user research for understanding the usage pattern of voice assistants in the mobile Naver app.
 - Developed design direction for better usage of voice assistants.
 - Created user scenarios of new design solutions.
- 2017 **SWAROVSKI / Freelance Jewelry Designer**
 Sep 2017 – Dec 2017
- Mickey Mouse celebration collection for 2018 FW
- 2016 **AGATHA Paris / Jewelry Designer and visual merchandise**
 May 2016 –Nov 2017

AWARDS

- 2024 **IF Design award**
[Doolpay] e-wallet service for rethinking purchase
<https://ifdesign.com/en/winner-ranking/project/doolpay-e-wallet-service-for-rethinking-purchase/618419>
- [Evergrow]** Investment Education Service
<https://ifdesign.com/en/winner-ranking/project/evergrow-investment-education-service/618273>
- 2023 **NRF (National Research Foundation of Korea) grants \$15,000**
- 2022 **IF Design award**
[MODU] Educational game for children with intellectual disabilities.
<https://ifdesign.com/en/winner-ranking/project/modu-a-story-based-empathy-expression-training-game/333132>
- 2021 **IF Design award**
[KARE MCM] Control UX for mobile negative pressure isolation ward reflecting the needs of all healthcare professionals and patients.
<http://mcm.kaist.ac.kr/>
- [Aline]** Service design helps people align their investment and consumption with their values.
<https://ifdesign.com/en/winner-ranking/project/aline/310898>
- [Aqua]** Interactive banking app that takes its cues from how people do

accounting in our heads to manage personal assets.

<https://ifdesign.com/en/winner-ranking/project/aqua/312577>

[Stockbox] Stock investment platform that makes it easy for people to enter the stock market by utilizing a metaphor of tangible gifts.

<https://ifdesign.com/en/winner-ranking/project/stockbox/311212>

[Pinto] Investment education and experiencing service for teenagers and parents to develop planning habits for investment.

<https://ifdesign.com/en/winner-ranking/project/pinto/311170>

Red dot design award

[Mobile Clinic Module Control UX] and [Aline]

2018

Red dot design award Brands & Communication

[AI Kids edition] Voice user interface that has been developed for Naver Clova which can be adapted to any kind of AI speaker.

<https://www.red-dot.org/ko/project/ai-kids-edition-25994>

[AI Meeting] Meeting assisting platform helps teams work efficiently and productively.

<https://www.red-dot.org/ko/project/ai-meeting-assistant-25993>

[Orbit] Voice user interface provides LED lights to indicate that it has valuable information to share with users to start a conversation.

<https://www.red-dot.org/ko/project/orbit-25996>

SERVICE

EXTERNAL REVIEWING

2024

ACM Conference on Human Factors in Computing Systems (CHI) Papers and Late-Breaking Work.

ACM Designing Interactive Systems (DIS) Papers and Pictorials.

ACM Computer-Supported Cooperative Work and Social Computing (CSCW) Papers.

Archives of Design Research (AODR).

ACM Conversational User Interfaces (CUI).

ACM Symposium on User Interface Software and Technology (UIST)

2023

Archives of Design Research (AODR)

International Conference on Human-Agent Interaction (HAI) Papers.

International Association of Societies of Design Research (IASDR) Papers.

Conference on Human Factors in Computing Systems (CHI) Papers.

Conversational User Interfaces (CUI) Papers.

- 2022 International Journal of Human–Computer Interaction (IJHCI).
Designing Interactive Systems (DIS) Papers and Pictorials.
International Conference on Human–Agent Interaction (HAI) Papers.
International conference on tangible embedded and embodied interaction (TEI) Work in Progress.
Archives of Design Research (AODR).
- 2021 Conference on Human Factors in Computing Systems (CHI) Case Studies.
MobileHCI (human–computer interaction) Late Breaking Results.