

RESEARCH INTERESTS

Smartglasses interaction, gestural interaction, subtle interaction, wearable computing, augmented reality

EDUCATION

Korea Advanced Institute of Science and Technology Ph.D. course in Graduate School of Culture Technology	Daejeon, Republic of Korea Sep 2021–Present
Korea Advanced Institute of Science and Technology M.S. in Graduate School of Culture Technology - Thesis: “Attention model of between and during tasks based on wearable activity tracking”	Daejeon, Republic of Korea Sep 2014–Aug 2017
Yonsei University B.S. in Electrical & Electronic Engineering	Seoul, Republic of Korea Mar 2010–Aug 2014

WORK EXPERIENCE

KAIST CTRI/KI-ITC ARRC Research Scientist(As a substitute of the military duty)	Daejeon, Republic of Korea Sep 2017 –Aug 2021
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QUALIFICATIONS

Best Implementation Award, Student Design Competition <i>The International Conference on Human-Computer Interaction with Mobile Devices and Services 2022</i>	MobileHCI'22
Honorable Mention Award <i>19th International Conference on Human-Computer Interaction with Mobile Devices and Services</i>	MobileHCI'17
Honorable Mention Award <i>18th International Conference on Human-Computer Interaction with Mobile Devices and Services</i>	MobileHCI'16
Best Poster Award <i>29th ACM User Interface Software and Technology Symposium</i>	UIST'16
Korea Eyewear Design Competition - Silver Prize <i>Korea Optical Industry Agency</i>	2016
Young CEO Excavation Competition - Bronze Prize <i>Yonsei University</i>	2013
National Science and Technology Scholarship <i>Korea Student Aid Foundation(KOSAF)</i>	2010–2013

PUBLICATIONS

- Paper

1. Pai, Y.S., Bait, M.L., **Lee, J.**, Xu, J., Peiris, R. L., Woo, W., Billingham, M. Kunze, K. (2022). NapWell: An EOG-based Sleep Assistant Exploring the Effects of Virtual Reality on Sleep Onset. *Virtual Reality*, 1-15. **Springer VR**

2. Park, G., Argyros, A., **Lee, J.**, & Woo, W. (2020). 3D Hand Tracking in the Presence of Excessive Motion Blur. *IEEE Transactions on Visualization and Computer Graphics*, 26(5), 1891-1901. **TVCG**
3. Yeo, H. S., **Lee, J.**, Bianchi, A., Samboy, A., Koike, H., Woo, W., & Quigley, A. (2020, March). WristLens: Enabling Single-Handed Surface Gesture Interaction for Wrist-Worn Devices Using Optical Motion Sensor. *In Proceedings of the Augmented Humans International Conference*. **AHs20**
4. Li, R., **Lee, J.**, Woo, W., & Starner, T. (2020, March). KissGlass: Greeting Gesture Recognition using Smart Glasses. *In Proceedings of the Augmented Humans International Conference*. **AHs20**
5. Yeo, H. S., Wu, E., **Lee, J.**, Quigley, A., & Koike, H. (2019, October). Opisthenar: Hand Poses and Finger Tapping Recognition by Observing Back of Hand Using Embedded Wrist Camera. *In Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology* (pp. 963-971). **UIST19**
6. Yeo, H. S., **Lee, J.**, Kim, H. I., Gupta, A., Bianchi, A., Vogel, D., ... & Quigley, A. (2019, October). WRIST: Watch-Ring Interaction and Sensing Technique for Wrist Gestures and Macro-Micro Pointing. *In Proceedings of the 21st International Conference on Human-Computer Interaction with Mobile Devices and Services* (pp. 1-15). **MobileHCI19**
7. **Lee, J.**, Aggarwal, S., Wu, J., Starner, T., & Woo, W. (2019, September). SelfSync: exploring self-synchronous body-based hotword gestures for initiating interaction. *In Proceedings of the 23rd International Symposium on Wearable Computers* (pp. 123-128). **ISWC19**
8. **Lee, J.**, Kim, E., Yu, J., Kim, J., & Woo, W. (2018, July). Holistic Quantified Self Framework for Augmented Human. *In International Conference on Distributed, Ambient, and Pervasive Interactions* (pp. 188-201). Springer, Cham.
9. **Lee, J.**, Yeo, H. S., Dhuliawala, M., Akano, J., Shimizu, J., Starner, T., ... & Kunze, K. (2017, September). Itchy nose: discreet gesture interaction using EOG sensors in smart eyewear. *In Proceedings of the 2017 ACM International Symposium on Wearable Computers*(pp. 94-97). ACM. **ISWC17**
10. Yeo, H. S., **Lee, J.**, Bianchi, A., Harris-Birtill, D., & Quigley, A. J. (2017, September). SpeCam: sensing surface color and material with the front-facing camera of mobile device. *In Proceedings of the 19th International Conference on Human-Computer Interaction with Mobile Devices and Services*. ACM. **MobileHCI17(Honourable Mention)**
11. Dhuliawala, M., **Lee, J.**, Shimizu, J., Bulling, A., Kunze, K., Starner, T., & Woo, W. (2016, October). Smooth eye movement interaction using EOG glasses. *In Proceedings of the 18th ACM International Conference on Multimodal Interaction* (pp. 307-311). ACM. **ICMI16**
12. Yeo, H. S., **Lee, J.**, Bianchi, A., & Quigley, A. WatchMI: pressure touch, twist and pan gesture input on unmodified smartwatches. *In Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services, 2016* **MobileHCI16(Honourable Mention)**
13. Lee, S., **Lee, J.**, Suh, K., & Doh, Y. Y. (2016). A Mobile Game Design Study Using Gamification and Symbolization Strategies to Promote Daily Physical Activity. *Proceedings of HCI Korea*, 170-177. **HCIKorea16**

- Poster/Demo

1. Hui-Shyong Yeo, **Juyoung Lee**, Woontack Woo, Hideki Koike, Aaron J Quigley, & Kai Kunze (2016, October). JINSense: Repurposing Electrooculography Sensors on Smart Glass for Midair Gesture and Context Sensing *In Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems* (pp. 1-6). **CHI EA21**
2. Kim, H. I., **Lee, J.**, Yeo, H. S., Quigley, A. J., & Woo, W. (2019, April). SWAG demo: smart watch assisted gesture interaction for mixed reality head-mounted displays. *In Adjunct Proceedings-2018 IEEE International Symposium on Mixed and Augmented Reality* **ISMAR-Adjunct19**
3. **Lee, J.**, Yeo, H. S., Starner, T., Quigley, A., Kunze, K., & Woo, W. (2018, February). Automated Data Gathering and Training Tool for Personalized“ Itchy Nose”. *In Proceedings of the 9th Augmented Human International Conference*. **AH-Adjunct18**

4. Yeo, H. S., **Lee, J.**, Bianchi, A., & Quigley, A. (2016, October). Sidetap & Slingshot Gestures on Unmodified Smartwatches. *In Proceedings of the 29th Annual Symposium on User Interface Software and Technology (pp. 189-190)*. ACM. **UIST-Adjunct16(Best Poster)**
5. Oh, J. Y., **Lee, J.**, Lee, Y. J., & Wohn, K. Y. “Vernacular Sound”: System for Soundscaping of Everyday Objects. *In Proceedings of 22nd International Symposium on Electronic Art, 2016 ISEA16*
6. An, S., **Lee, J.**, Shim, S. & Lee, J. PlayLight: Enriching Music Experiences through Interactive Lighting Based on Motion. *In Proceedings of 22nd International Symposium on Electronic Art, 2016 ISEA16*
7. Shimizu, J., **Lee, J.**, Dhuliawala, M., Bulling, A., Starner, T., Woo, W., & Kunze, K. (2016, September). Solar system: smooth pursuit interactions using EOG glasses. *In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing: Adjunct (pp. 369-372)*. ACM. **UbiComp-Adjunct16**

RELATED SKILLS

- **Languages:**
Python, Java, MATLAB, C, Processing, HTML/CSS
- **Frameworks:**
Flask, WordPress
- **Developer Tools:**
Git, Docker, Android Studio, IntelliJ, Unity

LANGUAGES

- **Korean:**
Native
- **English:**
Speak fluently and read/write with high proficiency

PROJECTS

WISE AR UI/UX Platform Development for Smartglasses Institute for Information and Communications Technology Promotion(IITP)	Sep 2017–Present Role: Researcher/Manager
Spatial data-based cultural content creation and production infrastructure creation technology development Korea Creative Content Agency(KOCCA)	Sep 2017–Apr 2019 Role: Researcher
Human-centered Augmented Human Platform to Leverage Big data/AI KAIST	Mar –Oct 2018 Role: Researcher
Study on contents authoring, experience, service platforms based on Augmented Reality KAIST	Sep –Dec 2017 Role: Researcher
Usability Study on Optical Trackpad input device CrucialTec	Jul –Dec 2016 Role: Researcher
Developing supporting framework for manufacturing to services Korea Evaluation Institute of Industrial Technology(KEIT)	Aug 2015–Nov 2016 Role: Researcher
Convergence and Guidelines creation program for the collaboration between the different majors Students Korea Foundation for the Advancement of Science and Creativity(KOFAC)	May –Dec 2012 Role: Researcher/Manager
Idea proposal project Korea Hitek	Apr–Jul 2012 Role: Researcher/Manager

EXPERIENCE

Teaching Assistant at KAIST

- Topics in Culture Technology Project Planning<AR Project> (GCT700) Fall 2022
- Topics in Culture Technology Project Planning<AR Project> (GCT700) Fall 2021

- Human-Computer Interaction for Culture Technology (CTP443)

Fall 2015

Visiting Research

- School of Interactive Computing, Georgia Institute of Technology

Mar–Apr2018

- Graduate School of Media Design, Keio University

Jan–Feb 2016

Volunteering

- Reviewer: CHI, IMWUT/UbiComp/ISWC, ICMI, ISMAR, TEI, VRST

- Student volunteer: AH'18, UbiComp'17, UIST'16

REFERENCES

References available upon request.