Kyungjun Lee

Ph.D. Candidate in Computer Science
University of Maryland, College Park

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Research Interests: Human-Computer Interaction; Accessibility; Augmented Reality; Machine Teaching; Human-Centered Artificial Intelligence; AI Fairness and Accountability

EDUCATION

2016–2022 (expected) **University of Maryland**, College Park, MD, USA
Doctor of Philosophy in Computer Science
Advisor: Hernisa Kacorri
Thesis: Egocentric Vision in Assistive Technologies For and By the Blind

2014–2016 **Sungkyunkwan University**, Suwon, South Korea
Master of Science in Electrical and Computer Engineering
Advisor: Hwansoo Han

2007–2014 **Sungkyunkwan University**, Suwon, South Korea
Bachelor of Science in Electrical and Computer Engineering

HONORS & AWARDS

2021 **Future Faculty Fellow**, University of Maryland, College Park

2020 **HCIL Maryland Way Award for Research Excellence**

WACV2020 Best Paper Award Applications

2018 **ACM ASSETS Doctoral Consortium**, ACM SIGACCESS

Summer Dean's Fellowship, University of Maryland, College Park

2016 **Dean's Fellowship** (for two years), University of Maryland, College Park

2015 **Teaching Assistants Certificate Program**, Sungkyunkwan University

2014 **M.S. & Ph.D. Track Scholarship** (for two years), Sungkyunkwan University

Brain Korea 21 Scholarship (for two years), Ministry of Education, Korea

Academic Excellence Scholarship, Sungkyunkwan University

2013 **Dean's List Award** (for top 5% students), Sungkyunkwan University

2007 **Jang Yeong Sil Scholarship** (for full years), Sungkyunkwan University

PROFESSIONAL EXPERIENCES

2016–Current **University of Maryland**, College Park, MD, USA
Research Assistant, Intelligent Assistive Machines Lab
Advisor: Hernisa Kacorri
Researching AI accessibility, especially for blind people through intelligent camera.

May–Aug 2021 **Google, Inc.**, (remote) Mountain View, CA, USA
Research Intern, Lookout Team
Mentors: Andreina Reyna, Arjun Karpur
Researched a teachable component of Lookout by Google.

Jun–Aug 2020 **Snap Research**, (remote) Santa Monica, CA, USA
Research Intern, HCI Group
Mentors: Rajan Vaish, Brian A. Smith, Yu Jiang Tham
Researched an AR system that involves a smartphone and smart glasses.

Jun–Aug 2019 **Carnegie Mellon University**, Pittsburgh, PA, USA
Visiting Student, Cognitive Assistance Lab
Mentor: Chieko Asakawa
Researched a wearable camera for blind people and its social acceptance.

May–Aug 2017 **IBM Research**, San Jose, CA, USA
Research Intern, Database Group
Mentor: VijayShankar Raman
Researched a tamper-evident database system using a merkle tree.

2014–2016 **Sungkyunkwan University**, Suwon, South Korea
Research Assistant, Advanced Research on Compilers and Systems Lab
Advisor: Hwansoo Han
Researched a CPU cache management for NVM-based system.

Jan–Feb 2014 **Samsung Electronics**, Suwon, South Korea
Software Engineering Intern, SQA Team
Mentor: Seunghee Ma
Worked on designing an automatic testing tool and a standard testing language.

2011–2012 **Zmanda, Inc.**, Sunnyvale, CA, USA
Software Engineering Intern
Mentor: Paddy Sreenivasan
Worked on a network module of a cloud backup application for MacOS.

PUBLICATIONS

Peer-Reviewed Conference Papers

C.11 *__Lee, K.__, *Hong, J., Jarjue, E., Essuah Mensah E., and Kacorri, H., 2021, From the Lab to People's Home: Lessons from Accessing Blind Participants' Interactions via Smart Glasses in Remote Studies. *To appear in the Proc. of the 19th Web for All Conference (W4A 2022)*. Lyon, France. ACM. **The first two authors equally contributed.*

C.10 **Lee, K.**, Sato, D., Asakawa, S., Asakawa C., and Kacorri, H., 2021, Accessing Passersby Proxemic Signals through a Head-Worn Camera: Opportunities and Limitations for the Blind. *In the Proc. of the 23rd ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2021)*. Virtual, USA. ACM.

C.9 Byers, K. M., Elsayed-Ali, S., Jarjue, E., Kamikubo, R., **Lee, K.**, Wood, R. and Kacorri, H., 2021, Reflections on Remote Learning and Teaching of Inclusive Design in HCI. *In the 3rd Annual Symposium on HCI Education (EduCHI 2021)*. Virtual, USA. ACM. **All authors equally contributed.*

C.8 **Lee, K.**, Sato, D., Asakawa, S., Kacorri, H., and Asakawa C., 2020, Pedestrian Detection with Wearable Cameras for the Blind: A Two-way Perspective. *In the Proc. of the 2020 CHI Conference on Human Factors in Computing Systems (CHI 2020)*. Hawai'i, USA. ACM.

C.7 Hong, J., **Lee, K.**, Xu, J., and Kacorri, H., 2020, Crowdsourcing the Perception of Machine Teaching. *In the Proc. of the 2020 CHI Conference on Human Factors in Computing Systems (CHI 2020)*. Hawai'i, USA. ACM.

C.6 **Lee, K.**, Shrivastava, A., and Kacorri, H., 2020, Hand-Priming in Object Localization for Assistive Egocentric Vision. *In the Proc. of the 2020 Winter Conference on Applications of Computer Vision (WACV 2020)*. Aspen, USA. IEEE. ***Best Paper Award, Applications (top 3 papers).***

C.5 **Lee, K.**, Hong, J., Pimento, S., Jarjue, E., and Kacorri, H., 2019, Revisiting Blind Photography in the Context of Teachable Object Recognizers. *In the Proc. of the 21st ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2019)*. Pittsburgh, USA. ACM.

C.4 **Lee, K.** and Kacorri, H., 2019, Hands Holding Clues to Object Recognition in Teachable Machines. *In Proc. of the 2019 CHI Conference on Human Factors in Computing Systems (CHI 2019)*. Glasgow, UK. ACM.

C.3 Hong, J., **Lee, K.**, and Kacorri, H., 2019, Exploring Machine Teaching for Object Recognition with the Crowd. *In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI 2019)*. Glasgow, UK. ACM.

C.2 Batch, A., **Lee, K.**, Maddali, H. T., and Elmqvist, N., 2018, December. Gesture and Action Discovery for Evaluating Virtual Environments with Semi-Supervised Segmentation of Telemetry Records. *In Proc. of IEEE Artificial Intelligence & Virtual Reality (AIVR 2018).* Taichung, Taiwan. IEEE.

C.1 **Lee, K.**, Ryu, S., and Han, H., 2015, April. Performance Implications of Cache Flushes for Non-Volatile Memory File Systems, *In Proc. of the 30th Annual ACM Symposium on Applied Computing (SAC 2015).* Salamanca, Spain. ACM.

Journal Articles

J.2 **Lee, K.**, Shrivastava, A., and Kacorri, H. 2021, Leveraging Hand–Object Interactions in Assistive Egocentric Vision, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* [*Early Access*]

J.1 Ryu, S., **Lee, K.**, and Han, H. 2015, In-memory Write-ahead Logging for Mobile Smart Devices with NVRAM, *IEEE Transactions on Consumer Electronics (TCE).* Volume 61(1), pp. 39-46.

Posters, Demos, and Other Publications

R.5 **Lee, K.** 2019. Teachable Object Recognizer for the Blind: Using First-Person Vision. *ACM SIGACCESS Accessibility and Computing*, (123).

R.4 **Lee, K.** 2018. Teachable Object Recognizer for the Blind: Using First-Person Vision. Doctoral Consortium, *The 20th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2018) [Poster].*

R.3 **Lee, K.** 2018. Object Recognition for the Blind: Using First-Person Vision, *The Human Computer Interaction Consortium (HCIC 2018) Workshop: AI and HCI. [Poster].*

R.2 **Lee, K.** 2018. Object Recognition for the Blind: Using First-Person Vision, *The HCIL 35th Annual Symposium. [Poster].*

R.1 Chandra, R., Grover, S., **Lee, K.**, Meshry, M., and Taha, A., 2017. Texture Synthesis with Recurrent Variational Auto-Encoder, *arXiv preprint arXiv:1712.08838*. *[*authors listed in the alphabetical order].*

COMMUNICATIONS

Invited Talks & Lectures

Sep 2021 **Center for Accessibility and Inclusion Research,** RIT
Talk: Egocentric Vision in Assistive Technologies For and By Blind Users

May 2021 **The HCIL 38th Annual Symposium,** University of Maryland, College Park
Talk: Exploring Head-worn Cameras for Pedestrian Detection with Blind People

May 2021 **The 26th Annual Innovation in Teaching & Learning Conference**
Talk: Reflections on Remote Learning and Teaching of Inclusive Design in HCI

Oct 2020 **Human Factors in Cybersecurity Course**, University of Tennessee, Knoxville
Lecture: Exploring Assistive Wearable Camera for Blind People from Two Perspectives

May 2020 **The HCIL 37th Annual Symposium**, University of Maryland, College Park
Talk: Pedestrian Detection with Wearable Cameras for the Blind: A Two-way Perspective

Jan 2020 **Human-Computer Interaction Laboratory**, Seoul National University
Talk: Teachable interface and system for people with visual impairments

Jan 2020 **Humaneer Lab**, Sungkyunkwan University
Talk: Teachable interface and system for people with visual impairments

Sep 2019 **Inclusive Design Course**, University of Maryland, College Park
Lecture: Blind Photography

May 2019 **The HCIL 36th Annual Symposium**, University of Maryland, College Park
Talk: Hands Holding Clues for Object Recognition in Teachable Machines

SERVICES

Peer Reviewer

- ACM CHI: Papers (2019, 2020, 2021, 2022)
- ACM UIST: Papers (2021)
- ACM IMWUT: Papers (2021)
- ACM ISMAR: Papers (2019, 2020)
- MIS**:** Papers (2019)

Student Volunteer

- AAAI Conference (2020)

Organization

- President, University of Maryland Korean Graduate Student Association (2019–2020)
- Vice President, University of Maryland Korean Graduate Student Association (2018–2019)
- President, Sungkyunkwan Academic Photography Association (2008–2009)

TEACHING

University of Maryland, College Park

- Teaching Assistant, Inclusive Design in HCI (INST704) 2020 F
- Teaching Assistant, Object-Oriented Programming II (CMSC132) 2018 S
- Teaching Assistant, Introduction to Computer Systems (CMSC216) 2017 S & F; 2016 F

Sungkyunkwan University, Korea

- Teaching Assistant, Introduction to Programming (GEDB029) 2016 S; 2015 S; 2014 F
- Teaching Assistant, Introduction to Computer Systems (SSE2030) 2015 F

MENTORING

University of Maryland, College Park

2020	**Tzu-Chia Yeh**, Master of Science in Human-Computer Interaction
2018–2020	**Ebrima Jarjue**, Master of Science in Human-Computer Interaction
2018–2020	**Simone Pimento**, Master of Science in Human-Computer Interaction
2018–2019	**Dan Yang**, Master of Information Management
2018	**June Xu**, B.S. in Electrical and Computer Engineering

SKILLS

Programming Languages

- Python, C/C++, Java, Swift, C#, R, Shell scripts, Matlab, HTML, CSS, JavaScript, PHP

Platforms & Tools

- Linux, TensorFlow, PyTorch, MXNet, Unity, Git, SVN, Vim, Eclipse, Visual Studio, Xcode, Android Studio