

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

University of Maryland

Doctor of Philosophy in Computer Science

Advisor: Dr. Hernisa Kacorri

Thesis: Egocentric Vision in Assistive Technologies For and By the Blind

College Park, MD, USA

September 2016–May 2022 (Expected)

Sungkyunkwan University

Master of Science in Electrical and Computer Engineering

Advisor: Dr. Hwansoo Han

Thesis: Cache flush mechanism to relieve burst write caused by epoch barrier

Suwon, South Korea

September 2014–August 2016

Bachelor of Science in Electrical and Computer Engineering

March 2007–August 2014

HONORS & AWARDS

Future Faculty Fellow, University of Maryland, College Park

2021

HCIL Maryland Way Award for Research Excellence

May 2020

WACV2020 Best Paper Award Applications

March 2020

ACM ASSETS Doctoral Consortium, ACM SIGACCESS

October 2018

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

May–August 2018

Dean's Fellowship, University of Maryland, College Park

2016–2018

M.S. & Ph.D. Track Scholarship, Sungkyunkwan University

2014–2016

Brain Korea 21 Scholarship, Ministry of Education, Korea

2014–2016

Teaching Assistants Certificate Program, Sungkyunkwan University

2015

Academic Excellence Scholarship, Sungkyunkwan University

2014

Dean's List Award for top 5% students, Sungkyunkwan University

2013

Jang Yeong Sil Scholarship, Sungkyunkwan University

2007–2014

PROFESSIONAL EXPERIENCES

University of Maryland

Research Assistant, Intelligent Assistive Machines Lab

Advisor: Hernisa Kacorri

Project: Research on intelligent camera systems for blind people on smartphones and smart glasses.


College Park, MD, USA

December 2017–Present

- Snap Research** (remote) Santa Monica, CA, USA
 Research Intern, HCI Group June–August 2020
Mentor: Rajan Vaish, Brian A. Smith, Yu Jiang Tham
Project: Research on an AR system that involves a smartphone and smart glasses.
- Carnegie Mellon University** Pittsburgh, PA, USA
 Visiting Student, Cognitive Assistance Lab June–August 2019
Mentor: Chieko Asakawa
Project: Research on an assistive wearable camera for blind people and its social acceptance.
- IBM Research** San Jose, CA, USA
 Research Intern, Database Group May–August 2017
Mentor: VijayShankar Raman
Project: Research on a tamper-evident database system using a merkle tree.
- Sungkyunkwan University** Suwon, South Korea
 Research Assistant, ARCS Lab September 2014–August 2016
Advisor: Hwansoo Han
Project: Research on a CPU cache management for NVM-based system.
- Samsung Electronics** Suwon, South Korea
 Software Engineering Intern, SQA Team January–February 2014
Mentor: Seunghee Ma
Project: Design of an automatic testing tool for air conditioners and a standard QA format.
- Zmanda, Inc.** Sunnyvale, CA, USA
 Software Engineering Intern October 2011–August 2012
Mentor: Paddy Sreenivasan
Project: Development of a network module of a cloud backup application for MacOS.

PUBLICATIONS

Peer-Reviewed Conference Papers

- 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 Proceedings 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 Proceedings 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 Proceedings 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 Proceedings 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 Proceedings 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 Proceedings 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 Proceedings 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. 2020, Leveraging Hand–Object Interactions in Assistive Egocentric Vision, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) Special Issue on Egocentric Perception*. [Under review]
- 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].

SERVICES

Peer Reviewer

- ACM CHI: Papers (2019, 2020, 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

COMMUNICATIONS

Invited Talks & Lectures

- Human Factors in Cybersecurity Course** University of Tennessee, Knoxville
Lecture: Exploring Assistive Wearable Camera for Blind People from Two Perspectives October 2020
- The HCIL 37th Annual Symposium** University of Maryland, College Park
Talk: Pedestrian Detection with Wearable Cameras for the Blind: A Two-way Perspective May 2020
- Human-Computer Interaction Laboratory** Seoul National University
Talk: Teachable interface and system for people with visual impairments January 2020
- Humaneer Lab** Sungkyunkwan University
Talk: Teachable interface and system for people with visual impairments January 2020
- Inclusive Design Course** University of Maryland, College Park
Lecture: Blind Photography September 2019
- The HCIL 36th Annual Symposium** University of Maryland, College Park
Talk: Hands Holding Clues for Object Recognition in Teachable Machines May 2019

TEACHING

University of Maryland, College Park

- Teaching Assistant, Object-Oriented Programming II (CMSC132) Spring 2018
- Teaching Assistant, Introduction to Computer Systems (CMSC216) Spring & Fall 2017; Fall 2016

Sungkyunkwan University, Korea

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

MENTORING

University of Maryland, College Park

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

SKILLS

Programming Languages

- Python, Java, Swift, C/C++, 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