Hae-Na Lee

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Research Interests

Human-computer interaction, human-centered AI, accessible computing, computer vision, machine learning

Education

Stony Brook University — Stony Brook, NY, USA
PH.D. IN COMPUTER SCIENCE — Aug 2016 – May 2023
- Advisor: Prof. I.V. Ramakrishnan
- Thesis: *Enhancing the Usability of Computer Applications for People with Visual Impairments via UI Augmentation*

Seoul National University — Seoul, South Korea
M.S. IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCE — Mar 2013 – Feb 2015
- Advisor: Prof. Suk I. Yoo
- Thesis: *Image Classification using SVM Classifier Learned by AdaBoost Method*

Sookmyung Women's University — Seoul, South Korea
B.S. IN COMPUTER SCIENCE — Mar 2009 – Feb 2013
- *Magna Cum Laude*

Professional Experience

Michigan State University — East Lansing, MI, USA
ASSISTANT PROFESSOR — Aug 2023 – Present
- Department of Computer Science and Engineering

Stony Brook University — Stony Brook, NY, USA
GRADUATE RESEARCH ASSISTANT — Jan 2019 – May 2023
- Knowledge Systems Laboratory

Meta Platforms, Inc. — New York, NY, USA
SOFTWARE ENGINEER INTERN — May 2022 – Aug 2022
- Instagram Relevance Integrity Team

Broadridge Financial Solutions — Brentwood, NY, USA
RESEARCH INTERN — Jun 2019 – Aug 2019
- Broadridge Innovation Laboratory

Korea Institute of Science and Technology — Seoul, South Korea
RESEARCH INTERN — Mar 2015 – Aug 2016
- Center for Robotics Research

Seoul National University — Seoul, South Korea
GRADUATE RESEARCH ASSISTANT — Mar 2013 – Feb 2015
- Artificial Intelligence and Computer Vision Laboratory

Peer-Reviewed Publications

INTERNATIONAL CONFERENCE

[C.19] Nithiya Venkatraman, Akshay Kolgar Nayak, Suyog Dahal, Yash Prakash, **Hae-Na Lee**, Vikas Ashok. 2025. AccessMenu: Enhancing Usability of Online Restaurant Menus for Screen Reader Users. Proceedings of the 22nd International Web for All Conference (W4A). **W4A 2025 Best Technical Paper Candidate**

[C.18] Mohan Sunkara, Akshay Kolgar Nayak, Sandeep Kalari, Yash Prakash, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2025. Adapting Online Customer Reviews for Blind Users: A Case Study of Restaurant Reviews. Proceedings of the 22nd International Web for All Conference (W4A). **W4A 2025 Best Technical Paper Award**

[C.17] Yash Prakash, Akshay Kolgar Nayak, Shoaib Mohammed Alyaan, Pathan Aseef Khan, **Hae-Na Lee**, Vikas Ashok. 2024. Improving Usability of Data Charts in Multimodal Documents for Low Vision Users. Proceedings of the 26th International Conference on Multimodal Interaction (ICMI).

[C.16] Yash Prakash, Akshay Kolgar Nayak, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2024. Understanding Low Vision Graphical Perception of Bar Charts. The 26th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS). (Acceptance rate: 30%)

[C.15] Mohan Sunkara, Akshay Kolgar Nayak, Sandeep Kalari, Satwik Ram Kodandaram, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2024. Assessing the Accessibility and Usability of Web Archives for Blind Users. The 28th International Conference on Theory and Practice of Digital Libraries (TPDL).

[C.14] Tien Tran, **Hae-Na Lee**, Ji Hwan Park. 2024. Discovering Accessible Data Visualizations for People with ADHD. Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI). (Acceptance rate: 26.4%) **CHI 2024 Best Paper Honorable Mention Award (Top 5%)**

[C.13] Yash Prakash, Mohan Sunkara, **Hae-Na Lee**, Sampath Jayarathna, Vikas Ashok. 2023. AutoDesc: Facilitating Convenient Perusal of Web Data Items for Blind Users. Proceedings of the 28th International Conference on Intelligent User Interfaces (IUI). (Acceptance rate: 24.1%)

[C.12] **Hae-Na Lee**, Yash Prakash, Mohan Sunkara, I.V. Ramakrishnan, Vikas Ashok. 2022. Enabling Convenient Online Collaborative Writing for Low Vision Screen Magnifier Users. Proceedings of the 33rd ACM Conference on Hypertext and Social Media (HT). (Acceptance rate: 36.0%)

[C.11] **Hae-Na Lee**, Vikas Ashok. 2022. Impact of Out-of-Vocabulary Words on the Twitter Experience of Blind Users. Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI). (Acceptance rate: 26.0%)

[C.10] Javedul Ferdous, **Hae-Na Lee**, Sampath Jayarathna, Vikas Ashok. 2022. InSupport: Proxy Interface for Enabling Efficient Non-Visual Interaction with Web Data Records. Proceedings of the 27th International Conference on Intelligent User Interfaces (IUI). (Acceptance rate: 24.5%)

[C.9] **Hae-Na Lee**, Vikas Ashok. 2021. Towards Enhancing Blind Users' Interaction Experience with Online Videos via Motion Gestures. Proceedings of the 32nd ACM Conference on Hypertext and Social Media (HT).

[C.8] **Hae-Na Lee**, Vikas Ashok, I.V. Ramakrishnan. 2021. Bringing Things Closer: Enhancing Low-Vision Interaction Experience with Office Productivity Applications. Proceedings of the ACM on Human-Computer Interaction (EICS).

[C.7] **Hae-Na Lee**, Sami Uddin, Vikas Ashok. 2020. TableView: Enabling Efficient Access to Web Data Records for Screen-Magnifier Users. The 22nd International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS). (Acceptance rate: 27.5%)

[C.6] **Hae-Na Lee**, Vikas Ashok, I.V. Ramakrishnan. 2020. Screen Magnification for Office Applications. The 22nd International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS).

[C.5] **Hae-Na Lee**, Vikas Ashok, I.V. Ramakrishnan. 2020. Repurposing Visual Input Modalities for Blind Users: A Case Study of Word Processors. IEEE International Conference on Systems, Man, and Cybernetics (SMC).

[C.4] **Hae-Na Lee**, Sami Uddin, Vikas Ashok. 2020. iTOC: Enabling Efficient Non-Visual Interaction with Long Web Documents. IEEE International Conference on Systems, Man, and Cybernetics (SMC).

[C.3] **Hae-Na Lee**, Vikas Ashok, I.V. Ramakrishnan. 2020. Rotate-and-Press: A Non-visual Alternative to Point-and-Click?. International Conference on Human-Computer Interaction (HCI International).

[C.2] **Hae-Na Lee**, Vikas Ashok. 2020. Towards Personalized Annotation of Webpages for Efficient Screen-Reader Interaction. Proceedings of the 31st ACM Conference on Hypertext and Social Media (HT).

[C.1] Deokyoung Kang, **Hae-Na Lee**, Suk I. Yoo. 2014. Detecting Defects in Repeatedly Patterned Image with Spatially Different Level of Noise. IEEE International Conference on Image Processing (ICIP).

International Journal

[J.8] Nithiya Venkatraman, Anand Ravi Aiyer, Yash Prakash, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2026. Characterizing Language Use in Online Accessibility Discussion Forums. Transactions on the Web (TWEB). *(Accepted)*

[J.7] Akshay Kolgar Nayak, Yash Prakash, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2026. Insights in Adaptation: Examining Self-reflection Strategies of Job Seekers with Visual Impairments in India. Proceedings of the ACM on Human-Computer Interaction (CSCW). *(Accepted)*

[J.6] Brooke Wolfe, Yoo Jung Oh, Hyesun Choung, Xiaoran Cui, Joshua Weinzapfel, R. Amanda Cooper, **Hae-Na Lee**, Rebecca Lehto. 2025. Caregiving Artificial Intelligence Chatbot for Older Adults and Their Preferences, Well-Being, and Social Connectivity: Mixed-Method Study. Journal of Medical Internet Research (JMIR).

[J.5] Yash Prakash, Pathan Aseeef Khan, Akshay Kolgar Nayak, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2025. Towards Enhancing Low Vision Usability of Data Charts on Smartphones. IEEE Transactions on Visualization and Computer Graphics (TVCG).

[J.4] Yash Prakash, Akshay Kolgar Nayak, Mohan Sunkara, Sampath Jayarathna, **Hae-Na Lee**, Vikas Ashok. 2024. All in One Place: Ensuring Usable Access to Online Shopping Items for Blind Users. Proceedings of the ACM on Human-Computer Interaction (EICS).

[J.3] Mohan Sunkara, Yash Prakash, **Hae-Na Lee**, Sampath Jayarathna, Vikas Ashok. 2023. Enabling Customization of Discussion Forums for Blind Users. Proceedings of the ACM on Human-Computer Interaction (EICS).

[J.2] Javedul Ferdous, **Hae-Na Lee**, Sampath Jayarathna, Vikas Ashok. 2023. Enabling Efficient Web Data-Record Interaction for People with Visual Impairments via Proxy Interfaces. ACM Transactions on Interactive Intelligent Systems (TiiS).

[J.1] **Hae-Na Lee**, Vikas Ashok. 2022. Customizable Tabular Access to Web Data Records for Convenient Low-Vision Screen Magnifier Interaction. ACM Transactions on Accessible Computing (TACCESS).

Honors and Awards

2025 **Best Technical Paper Candidate**, ACM 22nd International Web for All (W4A) Conference [C.19]
Best Technical Paper Award, ACM 22nd International Web for All (W4A) Conference [C.18]

2024 **Best Paper Honorable Mention Award**, ACM Conference on Human Factors in Computing Systems (CHI) [C.14]

2019 **Excellence as a TA Award**, Department of Computer Science, Stony Brook University

2016 – 2019 **University Fellowship**, Stony Brook University

2013 – 2015 **Global PhD Fellowship**, National Research Foundation of Korea
Research Topic: *Image Classification using Sparse and Hierarchical Representation of Classified Object Image Data*

2013 **Academic Excellence Scholarship**, Seoul National University

2009 – 2012 **Academic Excellence Scholarship**, Sookmyung Women's University

Teaching Experience

Michigan State University East Lansing, MI, USA
Instructor Jan 2024 – Present

Fall 2024 – 2025	**CSE 841: Artificial Intelligence**
Spring 2024 – 2025	**CSE 491: Selected Topics in Computer Science (Human-Computer Interaction)**

Stony Brook University Stony Brook, NY, USA
Graduate Teaching Assistant Aug 2016 – Dec 2018

Fall 2018	**CSE 537: Artificial Intelligence**
Spring 2018	**CSE 303: Introduction to Theory of Computation**
Fall 2017	**CSE 215: Foundations of Computer Science I**
Spring 2017	**CSE 101: Introduction to Computers**
Fall 2016	**CSE 114: Computer Science I**

Mentoring Experience

Advisees

Undergrad **Patrick Lo (MSU CSE)**, Fall 2024 – Spring 2025
Peter Pena (MSU CSE), Fall 2024 – Present

Dissertation Committee

PhD **Yash Prakash (Old Dominion University)**, *Enhancing Data Usability for People with Visual Impairments.*
Mohan Sunkara (Old Dominion University), *Enhancing Non-visual Interaction with Online User-generated Content.*

Professional Service

Reviewer

- ACM Transactions on Accessible Computing (TACCESS)
- ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
- ACM Designing Interactive Systems (DIS)
- ACM Conversational User Interfaces (CUI)
- International Conference on Pattern Recognition and Artificial Intelligence (ICPRAI)

Institutional Service

- MSU CSE Graduate Student Recruiting Committee (GSRC)
- MSU Designathon Judge