

# YUJIN KIM

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## RESEARCH INTERESTS

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AI for All, Accessibility, Human-AI Interaction, Human-AI Collaboration

## EDUCATION

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### Carnegie Mellon University (CMU)

Pittsburgh, PA

Visiting Student, Software and Societal Systems Department (non-degree program)

Aug. 2022 – Feb. 2023

- National AI Talent Scholarship, Ministry of Science and ICT

### Ewha Womans<sup>[sic]</sup> University (EWU)

Seoul, Korea

M.S. in Computer Science and Engineering

Sep. 2021 – Feb. 2024 (expected)

- GPA: 4.19/4.3

B.S. in Computer Science and Engineering

Mar. 2017 – Aug. 2021

- GPA: 3.92/4.3      Graduate Magna Cum Laude      Dean's List for 5 semesters (2018-2020)

## PUBLICATIONS

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1. **Kim, Y.J.**, Kim, S.H., Kim, Y.J., Lee, S.Y., Oh, U., "Understanding the Challenges and Opportunities of Human-AI Co-creation for Drafting Webtoons," *Under Review*.
2. **Kim, Y.J.**, Lee, Y.J., Lee, E.Y., Oh, U., "Understanding Novice's Annotation Process for 3D Semantic Segmentation Task with Human-in-the-Loop," *Under Review*.
3. Cavazos, L.A., Park, J.M., **Kim, Y.J.**, Oh, U., "BST: An Interactive Braille Slate using Touchscreen Devices," *Under Review*.
4. **Kim, Y.J.**, Oh, U., "Stroll Down Memory Lane: A Mobile Application for Storytelling Therapy for Elderly Dementia Patients," *Under Review*. (In Korean)
5. Guerreiro, J. **Kim, Y.J.**, Nogueira, R. Chung, S.A., Rodrigues, A., Oh, U., "The Design Space of the Auditory Representation of Objects and Their Behaviors in Virtual Reality for Blind People," *IEEE Transactions on Visualization and Computer Graphics*, 2023.
6. Joh, H.Y., Lee, Y.J., **Kim, Y.J.**, Uran Oh, "Effects of Music Playback Speed and Presence of Lyrics on Concentration," *HCI Korea Conference, 2021*. (In Korean)
7. **Kim, Y.J.**, Kim, S.H., Kim, R.G., Nam, H.J., Ko, E.J. et al.\* "Organizing an In-class Hackathon to Correct PDF-to-text Conversion Errors of Genomics & Informatics 1.0," *Genomics & Informatics*, 18(3), 2020. (\*all equal contributions)

## RESEARCH EXPERIENCE

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### Human-Computer Interaction Lab, EWU Dept. of Artificial Intelligence and Software

Seoul, Korea

#### "Understanding the Challenges and Opportunities of Human-AI Co-creation for Drafting Webtoons"

First Author | Advisor: Prof. Uran Oh

May 2023 – Present

- Designed interview sessions utilizing hands-on AI tools, including ChatGPT and Midjourney.
- Conducted interviews with sixteen professional digital cartoon (webtoon) artists to identify their needs and challenges in the webtoon creation process, and their perspectives on the future role of AI in creative endeavors.
- Qualitatively analyzed responses using Cohen's kappa to identify webtoon artists' needs for references and their concerns with generative AI's stereotypical outputs and insufficient copyright information of training data.

## “Understanding Novice’s Annotation Process for 3D Semantic Segmentation Task with Human-in-the-Loop”

First Author | Advisor: Prof. Uran Oh

Feb. 2022 – Present

- Implemented an active learning framework with *PointNet++* and designed an annotation interface for the study.
- Conducted a user study to analyze the performance and UX of sixteen novice annotators during 3D semantic segmentation annotation under two visualization conditions, with and without human-AI collaboration in a HITL setting.
- Discovered that a comprehensive spatial context from point cloud data and AI-assisted decision-making significantly improved novice annotators' performance and UX within the HITL system.

## “BST: An Interactive Braille Slate Using Touchscreen Devices”

Third Author | Advisor: Prof. Uran Oh, Prof. Luis Arturo Cavazos

Apr. 2022 – Present

- Interviewed two Braille teachers for feedback on the lab’s Braille learning system in a pilot study, and derived design insights that increased the Braille input speed of users by one minute and improved their typing accuracy by 54%.
- Determined the timing, audio speed, and tactility that contribute to the higher tool usability based on the users’ feedback.

## TEACHING EXPERIENCE

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### Teaching Assistant (with scholarships)

Ewha Womans University

Seoul, Korea

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|----------------------------|------------------------|-------------|
| • Contemporary Photography | (Prof. Thomas Webster) | Spring 2023 |
| • Introduction to HCI      | (Prof. Uran Oh)        | Fall 2021   |
| • Software Seminar I       | (Prof. Hyun soo Kim)   | Fall 2020   |

## PROFESSIONAL EXPERIENCE

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### Business Analyst Intern, Future Business Strategy Team

Nov. 2019 – Jan. 2020

SeAH Holdings Corp.

Seoul, Korea

- Examined the competitors’ facility and factory digitalization strategy for SeAH Holdings’ factory digitalization.
- Consulted with factory employees on facility layout transformation and factory digitalization to derive their needs.
- Analyzed opportunities for future business expansion on secondary processing products.

## EXTRACURRICULAR ACTIVITIES

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Volunteer, 2023 IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR 2023)

Mar. 2023

Volunteer, The 19<sup>th</sup> International Web for All Conference (W4A 2022)

Apr. 2022

Mobile Device Educator for the elderly

Mar. 2022 – Jun. 2022

Math Tutor at a local child welfare center

Aug. 2021 – Nov. 2021

President, Ewha Handbell Club

Spring 2020

Executive, Ewha Hiking Club

Spring-Fall 2019

Executive, Ewha Consulting Club

Fall 2019

President, Woman’s Reading Club

Spring-Fall 2018

## SCHOLARSHIPS

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Ewha Womans University

Seoul, Korea

Boeing Scholarship

Fall 2023

Graduate Admission Scholarship

Fall 2021, Spring 2022

Lee Hye-ja Scholarship

Spring-Fall 2018, Spring 2020

Future Skills Development Scholarship

Fall 2018, Spring 2020

## PROFICIENCY IN SKILLS

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**Programming Languages:** Python, C#, React Native, JavaScript, Java, C, Linux, SQL, HTML, CSS

**Techniques:** AI (Training to Inferencing with PyTorch, TensorFlow, Keras), Machine Learning, Data Analysis (Pandas, Matplotlib, SQL, Google Analytics), Web Development (Django, Vue.js), App Development (Android Studio, Unity, Expo), BackEnd (AWS, GCP, Django, Kafka), Edge Device (Raspberry Pi)