Callie Yejin Kim

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RESEARCH INTERESTS

My research focuses on user-centered methods to enhance feedback mechanisms and improve the reliability of LLM-driven robot programming. I explore how to empower non-experts to effectively interact with intelligent systems, combining technical development and user studies at the intersection of HCI, AI, and robotics.

EDUCATION

PhD, Computer Science   **August 2021 – Present**

University of Wisconsin-Madison, 3.44/4.00 cumulative GPA   *Madison, WI*

Advisor: Dr. Bilge Mutlu

M.S, Computer Science   **August 2019 – May 2021**

University of Maryland, 3.92/4.00 cumulative GPA   *College Park, MD*

Advisor: Dr. Huaishu Peng

B.S, Computer Science and Engineering   **March 2015 – February 2019**

Ewha Womans University, 3.78/4.00 cumulative GPA   *Seoul, South Korea*

RESEARCH EXPERIENCES

Graduate Research Assistant - *People and Robots Laboratory*   *Madison, WI*

Advisor: Dr. Bilge Mutlu   July 2023 – Present

· *Robo-critic: Robot Program Generation with Multi-critic Verification*
  Implemented an LLM modulo framework that enables users to provide feedback in LLM-driven robot programming using critics

University of Maryland - *Dept. of Computer Science*   *College Park, MD*

Advisor: Dr. Huaishu Peng   July 2020 – May 2021

· *Enabling Virtual Reality Experience for Visually Impaired People using Custom VR Headset*
  Designed and developed hardware prototypes that offer around-head haptic feedback to support visually impaired people to understand a scene in VR.

PUBLICATIONS

* indicates equal contribution

Kim, C.*, Lee, C.*, & Mutlu, B. Understanding Large-Language Model (LLM)-powered Human-Robot Interaction, In ACM/IEEE *Human Robot Interaction (HRI 24)*. 24.7% Acceptance Rate

Kim, C., Shin, I., Jung, H. (2018) Implementation of Google Cardboard Based VR Simulator for Disaster Evacuation Training, In *Proceedings of Korea Multimedia Society*

PRESENTATIONS

Kim, C., Shin, I., Jung, H. (2018) Mobile VR Simulation for Disaster Evacuation Training, Poster session presented at *Hanium Expo, Goyang-si, South Korea*

TEACHING EXPERIENCE

Teaching Assistant, *University of Wisconsin-Madison*   January 2022 – December 2024

CS400 Programming III

Teaching Assistant, *University of Wisconsin-Madison*   August 2021 – December 2021

CS537 Introduction to Operating Systems

Teaching Assistant, *University of Maryland*   August 2020 – May 2021

CMSC425 Game Programming

AWARDS AND SCHOLARSHIPS

Honors Scholarship, *Ewha Womans University*   **September 2018**

Honors Scholarship, *Ewha Womans University*   **September 2017**

Grand prize**,** *NEXON Dream Members, NEXON*   **March 2017**

Dean's list, *Ewha Womans University*   **March 2015 – June 2018**

INVITED TALKS

October 12th, 2024, Large-Language Models (LLM) for Human-Robot Interaction. Mentorship Program on HRI and Robot Learning, *University of Virginia*

PATENT

Sangsoo Park, Callie Y. Kim, Ina Shin, and Hyunkyung Jung. Virtual Reality Based Disaster Education Method, Device and Computer Readable Medium for Performing the Method. KR Patent Application No. 1020180160585 filed Dec 13, 2018, Registration No. 1021139260000 registered May 15, 2020

SERVICES

Grandparents University, *Instructor, University of Wisconsin-Madison*   Annually: July 2022, 2023, 2024

- · Led workshops teaching novel technologies, including robots and AI, to grandparents and grandchildren.
- · Designed interactive activities to bridge generational gaps in technology understanding.

'KING' Video Game Development Club, *Vice President, Ewha Womans University*   March 2015 – December 2017

- Held seminars about game development in semesters and developed games in holidays.
- Organized game projects which were sponsored by NEXON and LINE Plus.