Young Suh Hong

hngchris@umich.edu
(+734)660-7294
yshong.blog

INTERESTS

Human-AI Interaction using Robots & VR
Personalized Technologies for children with Intellectual Disability & Older Adults
Human-Centered Design in Healthcare & Education

EDUCATION

University of Michigan Aug 2022 - May 2024
Master of Health Informatics Michigan, United States

Seoul National University Mar 2016 - Feb 2022
Bachelor of Science in Computer Science and Engineering
Minor in Social Welfare Seoul, Korea

SCHOLARSHIP

NR-MHI Scholarship Fall 2022 - Winter 2024
Scholarship from School of Information, University of Michigan to students with Outstanding Academic Achievements

Seoul National University Alumni Association Scholarship Spring 2016 - Fall 2019
Scholarship for Undergraduate Students with Outstanding Academic Achievements

PUBLICATIONS

[1] Kim, Gi-Soo; **Hong, Young Suh**; Lee, Tae Hoon; Paik, Myunghee Cho; Kim, Hongsoo. Bandit-Supported Care Planning for Older People with Complex Health and Care Needs. 2023-03, doi:10.48550/arxiv.2303.07053.

arXiv PREPRINT

[1] Oney, Steve; Shen, Yue; Wu, Fei; **Hong, Young Suh**; Wang, Ziang; Khajekar, Yamini; Zhang, Jiacheng; Wang, April Yi. EDBooks: AI-Enhanced Interactive Narratives for Programming Education. 2024-11, arXiv:2411.10687.

RESEARCH EXPERIENCE

pJITAI June 2024 - Current
University of Michigan, supervised by Dr. Mark Newman

- Led technical development of frontend (HTML, JavaScript, CSS) and backend (Flask, MySQL) components of the "Personalizing Just-In-Time Adaptive Intervention (pJITAI) Toolbox," a web-based platform that enables mobile Health researchers to deploy reinforcement learning algorithms.
- Developed user-centered UI/UX of the toolbox for higher user experience.
- Engineered integration between client and server components using RESTful API architecture.

Personalized Chatbot Design for mHealth Sept 2024 - Current
University of Michigan, supervised by Drs. Mark Newman, Pedja Klasnja

- Designed UI/UX prototypes and interaction model for a simulated mHealth chatbot tailored to individual DISC personalities.
- Led user interviews to investigate the effectiveness of a personalized chatbot in enhancing user engagement with the mHealth application.
- Analyzed the interview and survey results using Python.

EDBooks Jun 2023 - Sept 2023
University of Michigan, supervised by Dr. Steve Oney

- Co-designed the study materials, UI/UX, study design of EDBook, an AI-enhanced interactive programming education tool.
- Led 20 user studies to examine the effectiveness of EDBook on learning, analyzed qualitative data using Python.
- Currently available on arXiv.

Bandit-Supporting Care Planning Aug 2021 - Aug 2022
Seoul National University, supervised by Dr. Hong Soo Kim

- Conducted experiments with bandit algorithms, leveraging AI to predict optimal combinations of health interventions for older adults in nursing homes.
- Analyzed and visualized experimental results using Python.
- Published to AICAS 2023 as a second author.

Human Support Robot Aug 2020 - Feb 2021
Seoul National University, supervised by Dr. Byoung-Tak Zhang

- Fine-tuned the YOLO algorithm to enable real-time object detection for the Human Support Robot (HSR).
- Enhanced the accuracy of the HSR's pick-and-place tasks to 90% by implementing a dual-camera system (head and gripper cameras) compared to a single-camera setup.
- Authored a bachelor's dissertation titled "Dual-Camera-Based Real-Time Object Tracking for Mobile Manipulation Robot's Pick-and-Place Task," following the design and execution of the algorithm and experiment.

PROJECTS

The Bible Embeddings Jan 2024 - Apr 2024
Final project for "Natural Language Processing"

- Fine-tuned a pre-trained GloVe model with Bible text data to create Bible embeddings.
- Developed a recommendation system that suggests the most relevant verses from the book of "2 Corinthians" based on user input describing specific situations or feelings.

Kitchen Vesta Sept 2021 - Dec 2021
Final project for "Principles and Practices of Software Development"

- Developed a personalized meal recommendation platform.
- Utilized a Machine Learning API to analyze nutritional content from meal images uploaded by users, providing personalized healthy diet suggestions.
- Served as team leader, contributing as both a frontend developer (React) and backend developer (Django, SQL).

WORK EXPERIENCE

ULift Jun 2024 - Jul 2024
Created learning materials for teaching React, HTML, JavaScript, CSS for programming beginners for coding education. Seoul, Korea

Center for Students With Disabilities Mar 2021 - Jun 2021
Assisted Seoul National University Students with Hearing Disability with Note-taking.
Seoul, Korea

Siloam Center for the Visually Impaired Sep 2020 - Nov 2020
Did Social Work Field Practicum as a Social Welfare Minor for 180 hours. Interviewed

and Assisted Older Adults with Visual Impairment. Seoul, Korea

TEACHING EXPERIENCE

Course Assistant (24 FALL, 25 WN) Michigan, United States
Graded students' assignments and provided written feedback for SI 500: Problem-solving with People, Information, and Technology, SI 106: Programs, Information and People.

TECHNICAL SKILLS

Software Languages: Python, React, React Native, Django, JavaScript, HTML, SQL, CSS

General: Software Development, Machine Learning

VOLUNTEER

Samsung Sorisaem Social Service Center Oct 2018 - Dec 2018
Volunteered as a Mathematics tutor for 4th Grader Students with Hearing Impairment. Seoul, Korea

Yeomyung School Jul 2018 - Aug 2018
Volunteered as a Biology Tutor for North Korean Defector High School Students to Prepare for University-Entering Examination. Seoul, Korea

YWCA Social Service Center Jun 2018 - Jul 2018
Volunteered to Assist Low-Income Older Adults. Seoul, Korea

Gaon Volunteer Gruop, Seoul National University Aug 2016
Lead Art and Physical Education Class for Elementary School Students. Siem Reap, Camboida