Jeongah Jasmine Lee

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Research Interests

Human-Computer Interaction, Visualization, Accessibility, Health & Well-Being Technologies

Education

MS/PhD **University of Massachusetts Amherst**, Computer Science — ***Amherst, MA, USA***
- GPA: 4.0/4.0

Sep 2024 - Present
(Expected Jun 2029)

BS **Sungkyunkwan University**, Computer Science and Engineering — ***Suwon, Korea***
- GPA: 3.71/4.0 (converted)

Mar 2019 - Feb 2024

The University of Texas at Austin, Electrical and Computer Engineering — ***Austin, TX, USA***
- Exchange student program

Jan 2022 - May 2022

Publications

Agentic Accessibility: A New Paradigm for Graphics Accessibility for Blind and Low-Vision
- ***Jeongah Lee***, Srikiran Kavuri, Hari Iyer, Ali Sarvghad
- ACM CHI Under Review

SVG Decomposition for Enhancing Large Multimodal Models Visualization Comprehension
- ***Jeongah Lee***, Ali Sarvghad
- ACM CHI Under Review

From Text to Visuals: Using LLMs to Generate Math Diagrams with Vector Graphics
- Jaewook Lee, ***Jeongah Lee***, Wanyong Feng, Andrew Lan
- AIED 2025: 26th International Conference on Artificial Intelligence in Education (Acceptance rate: 19%)

IoT Edge-Cloud: An Internet-of-Things Edge-Empowered Cloud System for Device Management in Smart Spaces
- Yoseop Joseph Ahn, Minje Kim, ***Jeongah Lee***, Yiwen Shen, Jaehoon Paul Jeong
- 2023 IEEE Network Magazine

Research Experiences

HCI-VIS lab, WHAT lab @ University of Massachusetts Amherst, Graduate Research Assistant — ***Amherst, MA, USA***
Sep 2024 - Present
- Advisor: Dr. Ravi Karkar, Dr. Ali Sarvghad
- Designed and developed human-centered AI systems that advance accessibility and well-being
- Led research on AI-driven mental health tools for Alzheimer's caregivers, integrating journaling, conversational interaction, and cognitive reframing (CBT) support
- Led research on AI-assisted visualization authoring tools enabling interactive creation and refinement of data graphics

IoT lab @ Sungkyunkwan University, Undergraduate Student Researcher — ***Suwon, Korea***
Jul 2021 - Nov 2021
- Advisor: Dr. Jaehoon Paul Jeong
- Developed an IoT edge-empowered Cloud System for the visual control of IoT devices in a user's smartphone

Work Experiences

Seoul National University Bundang Hospital, Natural Language Processing (NLP) Researcher — ***Bundang, Korea***
Mar 2024 - Jul 2024
- Developed a model predicting lung cancer TNM stage using an Electronic Health Record dataset
- Fine-tuned Large Language Models (LLMs) in resource-restricted settings, optimizing model performance through tailored prompt engineering techniques

Cipherome, Inc, Machine Learning (ML) Engineer, Intern — ***San Jose, CA, USA***
Mar 2023 - Aug 2023
- Developed the pipeline for an ML module within a clinician-focused medical data analysis platform
- Designed Figma wireframes to improve the platform's user interface and experience (UI/UX)

Naver Boostcamp AI Tech Program, NLP Trainee — ***Remote*** — Sep 2022 – Feb 2023

- Led projects on semantic text similarity, relation extraction, open-domain question answering, and chatbot development tasks

SK Planet Co.,Ltd., Industry-Academic Cooperation Student Researcher — ***Suwon, Korea*** — Mar 2020 - Dec 2020

- Developed an AR rhythm game application for the Busan One Asia Festival using AR Core to provide location-based interactive experiences

Awards & Honors

[Awards]

- 3rd Place (Grand Prize), Chung-ang University AI and Humanities Academic Paper contest — Jan 2023
- 1st Place (Grand Prize), Kookmin University self-driving contest — Jul 2021 - Nov 2021
- 3rd Place (Grand Prize), Sungkyunkwan University AI x Bookathon contest — Jan 2021
- Volunteering Excellence Prize, NIA(National Information Society Agency) — Dec 2020

[Scholarships]

- Academic Excellence Scholarship (top 12%) — 2022
- Creative Scholarship (100% tuition support) — 2021
- Sungkyun Software Scholarship (100% tuition support) — 2019
- MegastudyEdu Scholarship (external) — 2019

Teaching & Mentoring

[Teaching]

Graduate Teaching Assistant — Sep 2024 - Present

- *CICS 110: Introduction to Programming (Fall 2024)*
  Led two lab sessions (60 students each) with hands-on instruction and grading support.
- *CS 383: Artificial Intelligence (Spring 2025)*
  Mentored students in 15 group projects and assisted with assignment design and evaluation (180 students).
- *CS 571: Data Visualization and Exploration (Summer 2025)*
- *INFO 348: Data Analytics with Python (Fall 2025)*
  Sole TA for CS 571 (35 students) and INFO 348 (60 students); independently managed grading, office hours, and assignment design.

[Mentoring]

Independent Study Mentor — Feb 2025 - May 2025

- Aishwarya Vishnubhotla, Srikiran Kavuri (CS Undergraduate at UMass), Prachetas Padhi (ECE Master at UMass)
- Topic: Conversational Accessibility - Enhancing Mobile Usability for Older Adults through Task-Oriented Agents

Undergraduate Research Volunteer Program Mentor — May 2025 - Sep 2025

- Gerindra Adi, Vidhaan Kothari, Nish Methuku (CS Undergraduate at UMass)
- Topic: Glanceable Health Visualization for Older Adults Using Large Multimodal Models

Volunteering/Leadership

Panama World Friends Korea ICT e-volunteer — Nov 2020 - Dec 2020

Mobile Application Programming Mentoring at Youngbok Girls' High School — Sep 2019 - Dec 2019

College of Computing Student Council — Mar 2019 - Dec 2019

Skills

Technical Proficiencies: Python, Pytorch, JavaScript (React.js, D3.js, Node.js), Flask, HTML, CSS, MongoDB
Research Methodologies:
Qualitative: User Research, Semi-Structured Interviews, Prototyping, Usability Testing, Think-Aloud Protocol, Thematic Analysis
Quantitative: Survey Design, Experimental Design, Statistical Analysis, Modeling, Visualization Analysis
Tools & Platforms: Git, GitHub, Vercel, Render, Capacitor, Docker, Figma, Zeplin