JIHO KIM

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EDUCATION

Seoul National University (SNU) — Seoul, Korea
B.S. in Electrical and Computer Engineering, Cum Laude — *Mar 2017 – Feb 2024*
Overall GPA: 3.61 / 4.00 (Major GPA: 3.78 / 4.00)
- Thesis: "Multiple Instance Learning for Medical Imaging Applications"

RESEARCH EXPERIENCE & SELECTED PROJECTS

KIXLAB, KAIST — Daejeon, Korea
Full-time Research Intern (Advisor: Prof. Juho Kim) — *Aug 2025 – Present*
- Take a central role in research on real-time generative UI interactions for next-generation end-user devices in collaboration with **Samsung**, formulating the problem space from ambiguous design requirements into actionable, intent-centered research questions.
- Devised and systematized a rigorous evaluation framework that models user–goal alignment, interaction flow coherence, interface complexity, and information prioritization, drawing on evaluation methodologies in NLP and HCI to establish intent satisfaction as a first-class research construct.
- Integrated research rigor with implementation, conducting literature reviews, reproducing baseline methods, running ablation tests on evaluation metrics, and iterating on frameworks with research collaborators.
- Designed and implemented core evaluation logic—including early prototypes, intent-analysis algorithms, and an automated multi-method evaluation pipeline that combines computer-use agents with multimodal LLMs—targeting **ECCV 2026** (March).
- Initiated an independent follow-on study derived from this work, decomposing vague user intents into atomic sub-intentions and synthesizing DAG-based flows for high-level controllability and seamless user–AI collaboration.

Human-Computer Interaction Lab, SNU — Seoul, Korea
Undergraduate Research Intern (Advisor: Prof. Jinwook Seo) — *Jan 2023 – Jul 2023*
- Investigated how post-lecture reflective quizzes shape metacognitive monitoring and self-regulated learning; observed ∼70% three-week retention in an early pilot study that informed later course-level deployments.
- Built a full-stack quiz-generation pipeline using Google Speech-to-Text API and GPT-3.5 to transcribe lecture audio and deliver interactive reflective quizzes through a web interface.
- Conducted a structured literature review of gamification, cognitive load, and self-regulated learning using **ACM CHI** proceedings; synthesized engagement-enhancing design strategies and presented findings during weekly lab sessions.
- Attended HCI Korea 2023 as a member of the HCI lab and participated in conference sessions.

Entrepreneurship Program, SNU Business School — Seoul, Korea
CTO (Student Venture Team) — *Mar 2022 – Aug 2022*
- Proposed and prototyped a real-time, machine-mounted sewing defect detection system by building a custom dataset of stitch-level anomalies, fine-tuning YOLOv5, and optimizing it for on-device inference on Raspberry Pi.
- Achieved 30 FPS real-time performance and successfully detected over 80% of sewing defects under constrained edge conditions.
- Investigated operational pain points in garment manufacturing through structured interviews with *Prof. Jooyeon Kim (Dept. of Fashion and Textiles, SNU)* and executives at **Sae-A Trading**, identifying defect propagation patterns that account for over 30% of downstream production errors.
- Assessed feasibility and costs under factory constraints to guide hardware choices, system specs, and the business model.
- Recognized with 1st place by both faculty and students for technical rigor, empirical validation, and anticipated impact on aging labor forces and sustainability in garment manufacturing.

Intelligent Computational Imaging Lab, SNU — Seoul, Korea
Undergraduate Research Intern (Advisor: Prof. Se Young Chun) — *Jan 2022 – Jul 2022*
- Investigated weakly supervised cancer detection on gigapixel pathology WSIs using attention-based Multiple Instance Learning (MIL) to improve robustness under imperfect slide-level labels, based on datasets provided by **Seoul National University Hospital**.
- Developed data preprocessing and training pipelines; designed ablations on bag size, negative bag sampling, patch size, attention pooling variants, and key hyperparameters to analyze robustness and generalization.
- Spearheaded the research end-to-end, from model design and training pipeline implementation to ablation studies, culminating in an undergraduate thesis and a departmental poster presentation.

PROFESSIONAL & ENTREPRENEURIAL EXPERIENCE

BlynxLab — Seoul, Korea
Software Engineer — *Apr 2025 – Jul 2025*
- Architected and operated backend infrastructure for a personal AI tool-building platform that automates workflows over users' personal data, and prototyped a voice-based, hands-free interaction flow with inclusive onboarding.
- Engineered a modular backend using LangChain and Node.js with RAG pipelines for user-customizable agents.
- Designed and implemented a scalable load-testing system using Locust and Terraform, validating stability under 10,000+ concurrent virtual users.

Classday   Seoul, Korea
Team Lead & Co-founder   *Aug 2023 – Mar 2025*
- Co-founded and led engineering of a full-stack EdTech SaaS platform adopted by 2,000+ academies, architecting systems that consolidate fragmented teacher–student workflows and maintain longitudinal learning histories across subjects and devices.
- Implemented core academy-facing features, including WebSocket-based internal chat and per-academy Slack-style workspaces, a web POS system backed by a PC payment daemon, account-linked learning history management that persists per student, and an LLM-powered problem-solving service integrated with those records.
- Conducted 40+ stakeholder interviews (instructors, students, parents, academy owners, and academy operations managers), synthesizing operational constraints into domain schemas, product requirements, and integration interfaces.
- Collaborated with large, complex academies (e.g., Sanedu) to integrate heterogeneous in-house and legacy systems into Classday, designing data models and sync pipelines that ensured reliable interoperability across academy-specific tools.
- Scaled the engineering team from 3 to 10 and led cross-functional execution; set sprints, code reviews, and release cycles.
- Secured $10,000 in AWS Activate (Startup) credits and maintained reliable, cost-efficient production operations on AWS.

Simsimi   Seoul, Korea
Software Engineer   *Feb 2020 – Jul 2021*
- Enhanced a profanity filter with a multilingual BERT-based content-moderation pipeline for a 100+ language chatbot, leveraging in-app, incentive-based user labels to filter sensitive and offensive content at global scale (400M+ users, 200M+ daily utterances).
- Implemented in-app purchase and subscription flows for the iOS chatbot (Swift), enabling seamless monetization.
- Developed a user-creatable, chat-based social game MVP with Vue.js, Express.js, and Firebase (Authentication, Realtime Database).
- Served as the sole iOS developer on the team, owning app architecture and collaborating with backend engineers to align API contracts and data-sync protocols for chat, moderation events, and billing.

AWARDS

Woonhae Scholarship, Woonhae Foundation   Spring 2022, Fall 2022
- Awarded for excellence in academics and entrepreneurship with a social impact focus.

Merit-based Scholarship, SNU   Fall 2022

Work-Study Scholarship 1, SNU   Fall 2022
- Awarded for TA contributions to "Introduction to Algorithms".

TEACHING & LEADERSHIP EXPERIENCE

Introduction to Algorithms, SNU Dept. of Electrical and Computer Engineering   Seoul, Korea
Teaching Assistant   *Mar 2022 – Jun 2022*
- Selected as TA based on top performance in the prior semester, conducting weekly office hours and assisting with grading.
- Guided students through proof-based problem solving and helped them understand core algorithmic concepts and feedback.

Wafflestudio, SNU Dept. of Computer Science and Engineering   Seoul, Korea
Club President   *Feb 2022 – Jul 2023*
- Directed a 200+ member student-run development club, organizing a hackathon and other technical events.
- Designed and facilitated semester-long technical seminar tracks (e.g., web, mobile, backend), including a 2-month winter term where members formed teams, built toy projects, and presented them in a one-day demo session; curated and recorded sessions, with an archive available at YouTube.
- Delivered foundational onboarding seminars for ~180 new members on Git workflows, client–server architecture, and practical development practices to align collaboration standards across the club.
- Developed and operated a coding-test–based recruitment pipeline to screen 300+ applicants, including the coding test platform and evaluation workflow to enable fair and scalable selection.
- Continued to mentor later cohorts beyond presidential term by leading short sessions on selecting and scoping project topics, introducing basic user research, and advising teams as they refined and executed their toy projects.

SNU Choir, SNU   Seoul, Korea
Club Vice President   *Sep 2017 – Jul 2019*
- Planned and coordinated rehearsals and seasonal performances involving over 40 choir members.

SKILLS

Programming	C/C++, TypeScript, JavaScript, Python, Swift
Frontend	React, Next.js, Vue.js, Nuxt.js, TailwindCSS, HTML/CSS
Backend & Infrastructure	Node.js, Express.js, MongoDB, MySQL, Firebase, Terraform, AWS
AI & Machine Learning	PyTorch, TensorFlow, model training & evaluation pipelines, data preprocessing, dataset construction
HCI Research Methods	Semi-structured interviews (40+), pilot user studies, usage analytics, low-/mid-fidelity prototyping
Tools	Git, GitHub Actions, Figma, Confluence
Languages	Korean (Native), English (TOEFL iBT 109)