

Hoseong Ahn

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EDUCATION

Sungkyunkwan University

Suwon, KR

Bachelor's of Science, Dept. of Intelligent Software, College of Computing & Informatics (CCI) Mar 2025 — Present

- Cumulative GPA: 4.36/4.5
- 2nd Semester GPA: 4.45/4.5
- 1st Semester GPA: 4.26/4.5
- Relevant Coursework: Deep Learning Programming Practice, Fundamentals of Machine Learning, Introduction to Artificial Intelligence, Algorithms, Operating System, Introduction to Data Structures, Introduction to System Programming, Introduction to Computer Architectures, Basic Mathematics for Machine Learning, Linear Algebra, Probability & Statistics, Discrete Mathematics

Hana Academy Seoul

Seoul, KR

High School

Mar 2022 — Feb 2025

- Cumulative GPA: 3.43/4.0
- Relevant Coursework: Data Structures & Algorithms, Artificial Intelligence & Future Society, Computational Physics, Programming, AP Computer Science A, Advanced Discrete Mathematics, Basic Programming

WORK EXPERIENCE

Research Internship

Jul 2025 — Present

Speech, Language, Perception, and Reasoning (SLPR) Lab., Sungkyunkwan University

Suwon, KR

- Proposed Whisper-CD, a training-free multi-negative contrastive decoding framework that reduces hallucinations, repetition loops, and content omissions in long-form ASR, achieving up to 24.3 pp WER reduction on CORAAL with 48% faster throughput than beam search
- Designed and implemented a privacy-preserving hybrid voice assistant (Famigo) for multi-user family environments, integrating on-device speaker verification with cloud-based language models
- Conducted evaluation of hallucination patterns in multimodal LLMs under diverse acoustic conditions including noise, reverberation, and accented speech
- Currently researching efficient inference methods for automatic speech recognition systems
- Google Scholar: scholar.google.com/citations?user=Lxy_hcQAAAAJ

PUBLICATIONS

Whisper-CD: Accurate Long-Form Speech Recognition using Multi-Negative Contrastive Decoding,

Preprint (arxiv.org/abs/2603.06193)

2026

- Contributors: **Hoseong Ahn**, Jeongyun Chae, Yoonji Park, Kyuhong Shim
- Contributions: Proposed multi-negative contrastive decoding for long-form ASR, primary implementation and experiments, manuscript preparation

Famigo: A Privacy-Preserving Hybrid Voice Assistant for Multi-User Family Environments , ICEIC 2026

(doi.org/10.1109/iceic69189.2026.11385934)

2025

- Contributors: **Hoseong Ahn**, Junwon Moon, Hansol Park, Kihun Lee, Kyuhong Shim
- Contributions: Primary implementation and framework design, manuscript preparation

Evaluating Hallucinations in Multimodal LLMs with Spoken Queries under Diverse Acoustic Conditions,

Preprint (arxiv.org/abs/2510.08581)

2025

- Contributors: Hansol Park, **Hoseong Ahn**, Junwon Moon, Yejin Lee, Kyuhong Shim
- Contributions: Conducted experiments and contributed to manuscript review and editing

EXTRACURRICULAR ACTIVITIES

UCPC 2025 (Union of Clubs for Programming Contests)

Jul 2025

- Advanced to the finals (42nd place) of UCPC 2025, a nationwide collegiate programming contest organized by the Korean university algorithm club union, as team “꿈속에서null을만나”
- Ranked 48th in the preliminary round, qualifying for the on-site finals
- Contest page: 2025.ucpc.me

Qualcomm Edge AI Developer Hackathon - Korea

Jul 2025 — Aug 2025

- Developed Famigo, an on-device AI assistant with voice interface and shared memory features for family environments
- Integrated multiple system components to run natively on Snapdragon X Series-powered Copilot+ PC
- Implemented edge AI-based application leveraging on-device processing for privacy-preserving voice assistance
- Project repository: [BetaTester772/famigo_ui](https://github.com/BetaTester772/famigo_ui)

Google Developer Groups on Campus, Sungkyunkwan University

Sept 2025 — Present

- Serving as Tech Core member responsible for the AI track, organizing and leading AI-focused technical sessions and study groups
- Participated in “Global IT Expert Meets Kingoins” tech talk series hosted by GDG on Campus SKKU
- Delivered a presentation on semiconductor technology to fellow developers and students

2025 SKKU Casual Hackathon

Sept 2025

- **Awarded 2nd Place** — Extended Famigo into Famiso, addressing the hackathon theme of “isolation” by rebalancing family connection and personal space
- Added Instagram Stories-inspired sharing features, allowing family members to post photos and text updates
- Developed AI-powered daily briefing system that synthesizes each member’s stories into 3-line summaries
- Implemented family-wide 1-minute consolidated briefing delivered once per day to maintain connection across distances

2025 RE:ALTHON Joint Hackathon

Nov 2025

- Built SetTransformer-inspired histogram prediction model (ISAB-style encoder) to estimate class grade distributions from limited score samples
- Achieved near-perfect accuracy with MSE 0.003, JS Divergence 0.03, and EMD 0.03 against ground truth distributions
- Developed FastAPI backend with Redis caching, and OpenAI API integration for personalized study advice
- Deployed on Oracle Cloud with Docker containerization (FastAPI + Redis + Caddy reverse proxy)
- Project repository: [BetaTester772/2025-realthon](https://github.com/BetaTester772/2025-realthon)

SKILLS

- **Programming Languages:** Python, C/C++, HTML/CSS/JavaScript, Java
- **Technologies:** PyTorch, TensorFlow, FastAPI, Svelte, Tailwind CSS, Git, UNIX(Linux), Docker, Caddy