JinKyoung Hwagbo

+82-10-7576-2498 | jj.hwangbo@samsung.com | hbjk0305.github.io

EDUCATION

• **Seoul National University** — *Mar 2018 – Aug 2022*
Bachelor of Science in Artificial Intelligence and Industrial Engineering — Seoul, Republic of Korea
  ◦ Double Major
  ◦ Summa Cum Laude, GPA: 4.06/4.30, Rank: **3rd**

WORK EXPERIENCE

• **Samsung Electronics** — *Jul 2022 – Present*
Full Time, Sound AI Researcher (Supervisors: Chanwoo Kim, Corporate EVP; Hoon-Young Cho, Corporate VP) — Seoul, Republic of Korea
  ◦ AI Solution Team, AI Center-Seoul, Samsung Research
  ◦ Research Topics: Audio-Visual Source Separation, On-device Sound Event Detection, Anomaly Sound Detection

• **Samsung Electronics** — *Summer 2021*
Full Time, Research Intern (Supervisor: Chanwoo Kim, Corporate EVP) — Seoul, Republic of Korea
  ◦ Language & Voice Team, Global AI Center, Samsung Research
  ◦ Research Topics: Neural Bandwidth Extension

• **Seoul National University** — *Summer 2020*
Full Time, Research Intern (Advisor: Prof. Bongwon Suh) — Seoul, Republic of Korea
  ◦ Human Centered Computing Lab, Graduate School of Convergence Science and Technology
  ◦ Research Topics: ECG-based Heart Disease Prediction

PATENTS AND PUBLICATIONS

P=PATENT, S=IN SUBMISSION

[P.1] **JinKyoung Hwangbo**, Hosang Sung, Seong-Hu Kim, et al. "*Electronic Device and Method for Summarizing Video Data*". KR Patent Application, P2025-0128738. Filed: Sep 10, 2025.

[P.2] JeongHoon Lee, Yeaseul Song, **JinKyoung Hwangbo**, et al. "*Method for Summarizing Video Data*". KR Patent Application, P2025-0115037. Filed: Aug 19, 2025.

PROJECTS

• **Audio Eraser for Galaxy S25 series** — *Mar 2024 – Present*
Main AI-powered feature of Galaxy S25 series *that can remove unwanted background sounds* — Samsung Electronics [▶]
  ◦ Developed sound source detection system that scans 90-min video on device in 5.1 sec, achieving F1 score above 90%.

• **Anomaly Sound Detection for Home Appliances** — *Oct 2022 – Dec 2024*
AI-powered diagnostic system of home appliances, released in domestic market. — Samsung Electronics
  ◦ Automated 54% of noise-related service requests in SmartThings' HRM system (19.9% of all cases) by anomaly sound detection model, reducing call center load.

• Comparison of Recognizing Emotions Depending on Bandwidth-limitation of Digital Speech — *Spring 2022*
Bachelor's Thesis in Industrial Engineering (Advisor: Prof. Woojin Park) — Seoul National University
  ◦ Designed and conducted human-subject experiments with bandwidth-controlled speech stimuli to quantify effects on emotion recognition accuracy.
  ◦ Found that recognition performance is affected more by emotional category than by bandwidth limitation.

• **Speech Bandwidth Extension with Hifi-GAN** — *Summer 2021*
Bachelor's Thesis in Artificial Intelligence (Advisors: Chanwoo Kim, Corporate EVP; Prof. Sungjoo Yoo) — Samsung Electronics
  ◦ Developed generative model to extend audio bandwidth from wideband (8 kHz) to super-wideband (16 kHz) while restoring codec compression artifacts.
  ◦ Achieved 30% improvement in MUSHRA perceptual quality scores and demonstrated model generalization across unseen speakers and diverse codec conditions.

- GAN based Sign Language Synthesis Model *May – Dec 2021*

  Undergraduate Research Program (Advisor: Prof. Kyomin Jung) Seoul National University
  - Led team as captain, developed GAN model generating sign language motion video while preserving original speaker's facial features.
- ECG-based Heart Disease Prediction Using Deep Learning *Summer 2020*

  Research Internship Project at HCC Lab (Advisor: Prof. Bongwon Suh) Seoul National University
  - Developed Convolutional Recurrent Neural Network (CRNN) model to predict heart diseases on mobile device.

HONORS AND AWARDS

- **2024 2nd half Samsung Research Award** *Dec 2024*

  President of Samsung Research
- Merit-based Scholarship *2019 – 2022*

  President of Seoul National University
  - full amount (3 semesters), 50% (3 semesters), and 10% (1 semester)
- Reporter Award *Nov 2019*

  President of Seoul National University
- Grand Prize (1st Place), 4th Supercomputing Utilization Idea Contest *Oct 2016*

  President of Korea Institute of Science and Technology Information (KISTI)
- Grand Prize (1st Place), 3rd Supercomputing Utilization Idea Contest *Oct 2015*

  Minister of Science, ICT and Future Planning

ACTIVITIES

- **Peer Tutoring** *Mar 2021 – Jun 2022*

  Courses: Human Factors Engineering(406.304), Scientific Management(406.211)
  - Selected as peer tutor based on outstanding academic performance and responsibility; provided academic assistance and mentorship to fellow undergraduates.

- Tobigs: **Maching Learning Study Group** *Feb – Dec 2021*
  - Smootify[⌂]: Developed system for seamless song transitions, enabling continuous infinite streaming using music generation techniques with MuseGAN.
  - MPTI[⌂]: Developed chat service that allows users to interact with movie characters using DialoGPT and GPT-2.

- Volunteer Social Service
  - SNU Mentoring Program: Served online mentoring for high school students. *Mar – Nov 2021*
  - Teaching assistant for young adults with developmental disabilities. *Spring 2019*

- Seoul National University News [⊕] *2018 – 2019*
  - **Head of Photography Department** (1 semester) – Led department and managed visual content.
  - **Head of New Media Team** (1 semester) – Led newly established New Media team
  - Photojournalist (2 semesters) – Worked as photographer for university newspaper.

SKILLS

- **Data Science & Machine Learning:** PyTorch, TensorFlow, TFLite, NumPy, Pandas, matplotlib, SciPy, scikit-learn
- **Programming Languages:** Python, C/C++, Java, Kotlin, MySQL
- **Other:** Git, Github, Unit Testing, OOP, CI/CD