

# JinKyoung Hwangbo

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## 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 Classification, 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

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- **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

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- **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

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- **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