Keondo Park

Ph.D Student @ AIoT Lab, Graduate School of Data Science, Seoul National University

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Summary

Career goal: AI research scientist (Health and wellness)

Experiences / Expertise:

- My research focuses on lightweight AI models and optimization on resource-constrained systems. My research has led to 6 publications in total, including publications at top-tier conferences (CVPR, NeurIPS, ICLR and IPSN), SCIE journal (SLEEP) and three best paper awards from KAIC and KSSM.
- I am particularly interested in developing AI models from various real-world domains, with a special focus on the healthcare. As part of this effort, I am participating in the SNU Med AI program, and co-researching sleep AI with Prof. Hyunwoo Shin from Seoul National University Hospital.
- As part of applying AI models into real-world domains, I have regularly participated in AI competitions with excellent results. Notably, I achieved the 1st place at the 2023 Samsung AI challenge, the 2nd place at the 2025 Samsung Research AI challenge, 2022 Naver AI challenge, and at the 2022 Korean national AI challenge.
- I have supported fellow researchers by serving as a teaching assistant, giving seminal talks, installing and managing lab servers, and taking on leadership roles in the lab.

Education

Graduate School of Data Science, Seoul National University, Republic of Korea Mar. 22 – Present

Ph.D student in Data Science

- GPA: 4.12/4.3
- Advisor: Prof. Hyung-sin Kim

Graduate School of Data Science, Seoul National University, Republic of Korea Mar. 20 – Feb. 22

M.S. in Data science

- GPA: 4.19/4.3, Summa Cum Laude
- Advisor: Prof. Hyung-sin Kim
- Thesis: LuxMea: Real-time on-device 3D object detection for visually impaired people

Seoul National University, Republic of Korea Mar. 07 – Aug. 13

B.S. in Mathematics

- GPA: 3.84/4.3, Cum Laude

Publications

- Dongik Park, Hyunwoo Ryu, Suahn Bae, **Keondo Park**, and Hyung-Sin Kim, "T1: One-to-One Channel-Head Binding for Multivariate Time-Series Imputation, The International Conference on Learning Representations (ICLR 2026), Apr 2026. (CS Top Conference, acceptance ratio: 28%)
- Eunsu Baek, **Keondo Park**, Jeonggil Ko, Min-hwan Oh, Taesik Gong, and Hyung-Sin Kim, Position: AI Should Sense Better, Not Just Scale Bigger: Adaptive Sensing as a Paradigm Shift, The Neural Information Processing Systems (NeurIPS 2025), Dec 2025. (CS Top Conference, acceptance ratio: 8%)
- **Keondo Park**, Joopyo Hong, Wooseok Lee, Hyun-Woo Shin, Hyung-Sin Kim, "DistillSleep: Real-Time, On-Device, Interpretable Sleep Staging from Single-Channel EEG", SLEEPJ, Aug 2025,
- Eunsu Baek, **Keondo Park**, Ji-yoon Kim, and Hyung-Sin Kim, "Unexplored Faces of Robustness and Out-of-Distribution: Covariate Shifts in Environment and Sensor Domains," IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR'24), June 2024. (CS Top Conference, acceptance ratio: 23.6%)
- **Keondo Park**, You Rim Choi, Inhoe Lee, and Hyung-Sin Kim, "PointSplit: Towards On-device 3D Object Detection with Heterogeneous Low-power Accelerators," ACM/IEEE Conference on Information Processing in Sensor Networks (ACM/IEEE IPSN'23), May 2022. (CS Top Conference, acceptance ratio: 26.5%)
- Woojung Kim, **Keondo Park**, Kihyuk Sohn, Raphael Shu, Hyung-Sin Kim, "Federated Semi-Supervised Learning with Prototypical Networks", arxiv preprint, May 2022.

Awards

- **2nd Place** at the 2025 Samsung Research AI Challenge (Topic: Multimodal AI models that can understand users' daily photos).
- **Best Paper** Award at the 2025 summer Korean AI Conference: DistillSleep: Real-Time, On-Device, Interpretable Sleep Staging from Single-Channel EEG.
- **1st Place** at the 2023 Samsung AI Challenge (Topic: Camera-Invariant Domain Adaptation).
- **Best Paper** Award at the 2022 summer Korean AI Conference: Federated Semi-Supervised Learning with Prototypical Networks.
- **2nd place** at the 2022 national AI competition (Semi-supervised image segmentation).
- **2nd place** at the 2022 Naver AI Rush (Landmark detection).
- **Best Paper** Award at the 2022 Korean Sleep Medicine Conference: "On-device Real-time Sleep Stage Classification with Single Channel EEG using Low-power NPU".
- **Excellence award** at the 2022 k-ium medical AI competition.
- BK outstanding graduate student in 2022.
- 4th place at the 2021 national AI competition (lightweight object detection).
- 2021 GSDS (Graduate School of Data Science) InnoJam winner: LuxMea: On-device 3D object detection for visually impaired people.

Experiences

NRF Korea Young Researcher (Research project) Mar. 23 – Present

- Joint design of application, deep learning and systems for on-device deep video understanding.
- Participating researcher

SNU Creative-Pioneering Researcher (Research project) Aug. 22 – Jul. 25

- Ambient Healthcare: IoT-based personalized edge AI system for remote patient monitoring.
- Participating researcher

SNU Education and Research in Medical AI program Aug. 22 – Present

- Collaboration with Prof. Hyunwoo Shin from Seoul National University Hospital.
- Research area: Sleep AI, at-home sleep monitoring with on-device AI.

SK Hynix (Research project) Dec. 20 – Sep. 21

- Real time fault detection of time series data, collected during semiconductor production.
- Participating researcher

Milliman, Inc, Republic of Korea (Employed) Jan. 13 – Feb. 20

(Global consulting company specialized in actuarial services. Revenue(2019): USD 1.19B)

Consulting Actuary

- Constructed a financial projection model in programming language to predict the future cash flows of insurance companies.using proprietary actuarial software (MG-ALFA, Prophet).
- Built a data warehouse to aggregate the internal statistics of insurance companies using Oracle.
- Developed a proprietary system for managing insurance companies' internal assumptions used in financial projections. This web-based system offers MS Excel file management, flexible communication from local environment through an Add-in, and data visualization. The system is written in NodeJS and C#, with Tableau server used as the visualization engine.
- Participated in various projects including M&A, new product development, and ALM (Asset-Liability Management).

Milliman UK, Birmingham, United Kingdom (Seconded) Feb. 16 – Jan. 17

Data Engineer

- Developed an ETL process to prepare and submit data from companies' systems to regulatory authorities to comply with the European insurance regulation, Solvency II. Used Pig language on MS Hadoop factory.
- Executed data visualization projects based on company statistics to calculate metrics for management purpose, using MS Power BI and R.
- Received the Challenger Award (Outstanding Employee Award) in 2016.

Skillset

Programming: Python, Tensorflow/PyTorch, NodeJS, C/C++, C#, Javascript, SQL

Languages: Korean (Native), English (TOEFL 103), French (DELF A1)

Others: ASA (Associate of Society of Actuary, 2019), CFA(Chartered Financial Analyst, 2018)

Others

Teaching:

- Teaching Assistant, Computing for Data Science (C++): 2023 Spring
- Teaching Assistant, Computing Foundation for Data Science (Python/C, From scratch): 2021 Winter bootcamp, 2021 Spring
- Teaching Assistant, Ambient On-Device AI (From scratch): 2021 Spring, 2022 Summer bootcamp

Talk

- SNU AI Med Seminar in 2022: On-device Real-time Sleep Stage Classification with Single Channel EEG using Low-power NPU.
- ExploreCSR by Google in 2023: Life, Research and Career plan at Graduate School.

Reviewer

- Participated as a reviewer for CVPR, ICML, IEEE JBHI and IEEE TAI.

Patent

- Hyunwoo Shin, Hyungsin Kim, **Keondo Park**, " On-device Real-time Sleep Stage Classification with Single Channel EEG using Low-power NPU", Application, 10-2022-0129609, Nov. 2022.

Others

- Head of Lab server administration, AIoT (2020-2023): From zero to four GPU nodes (16 GPUs)
- Lab leader, 2020-2021.
- Class project introduced in the press, 2020: On-device mask detection using Google Coral EdgeTPU (https://www.mk.co.kr/news/it/view/2020/06/669932/)
- Class project, 2022: On-device Real-time Sleep Stage Classification with Single Channel EEG on Coral for daily sleep monitoring (link to video)