KEUN-SOO HEO (허근수)

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Deep Learning, Multi-Modal, Medical AI, Generative Models

EDUCATION & RESEARCH EXPERIENCE

Korea University   **Seoul, South Korea**
Integrated MS-PhD in Department of Artificial Intelligence   Mar. 2020 –
• Medical Artificial Intelligence LAB (MAILAB)   Jan. 2020 –
• Advisor : Prof. Tae-Eui Kam
• GPA: 4.31/4.5

Catholic University of Korea   **Bucheon, Gyeonggi-do, South Korea**
B.S. in Department of Information, Communication and Electronic Engineering   Mar. 2014 – Feb. 2020
• Image Signal Processing Lab.   Dec. 2017 – Jan. 2020
• Advisor : Prof. Changwoo Lee
• GPA: 4.33/4.5 (Graduated top of the class)
* Served in the Republic of Korea Army as part of mandatory military duty (2015–2017)

PUBLICATION (*: Equal contribution)

Keun-Soo Heo, Ji-Wung Han, Soyeon Bak, Minjoo Lim, Bogyeong Kang, Sang-Jun Park, Weili Lin, Han Zhang, Dinggang Shen, and Tae-Eui Kam, "Sparsely Labeled fMRI Data Denoising with Meta-Learning-Based Semi-Supervised Domain Adaptation," *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2025. (**Oral Presentation**, Early Accepted (Top 9%))

Bogyeong Kang, Sang-Jun Park, Minjoo Lim, Myeongkyun Kang, **Keun-Soo Heo**, Ji-Hye Oh, Hyun Jung Lee, and Tae-Eui Kam, "Pre-to-Post Operative MRI Generation with Retrieval based Visual In-Context Learning," *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI),* 2025.

Sang-Jun Park, **Keun-Soo Heo**, Bogyeong Kang, Minjoo Lim, and Tae-Eui Kam, "Group-wise Compression and Summarization via LLM-based Ensemble for Chest X-ray Report Generation," *International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2025. (**Oral Presentation**)

Sang-Jun Park*, **Keun-Soo Heo***, Dong-Hee Shin, Young-Han Son, Ji-Hye Oh, and Tae-Eui Kam, "DART: Disease-aware Image-Text Alignment and Self-correcting Re-alignment for Trustworthy Radiology Report Generation," *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.

Bogyeong Kang, Hyeonyeong Nam, Myeongkyun Kang, **Keun-Soo Heo**, Minjoo Lim, Ji-Hye Oh, and Tae-Eui Kam, "Target-Aware Cross-Modality Unsupervised Domain Adaptation for Vestibular Schwannoma and Cochlea Segmentation," *Scientific Reports*, 2024.

Jun-Mo Kim, **Keun-Soo Heo**, Dong-Hee Shin, Hyeonyeong Nam, Dong-Ok Won, Ji-Hoon Jeong, and Tae-Eui Kam, "A Learnable Continuous Wavelet-based Multi-Branch Attentive Convolutional Neural Network for Spatio-Spectral-Temporal EEG Signal Decoding," *Expert Systems With Applications*, 2024.

Sanghyeon Cho, Bogyeong Kang, **Keun-Soo Heo**, Eunjung Jo, and Tae-Eui Kam, "Enhanced Structure Preservation and Multi-View Approach in Unsupervised Domain Adaptation for Optic Disc and Cup Segmentation," *IEEE International Symposium on Biomedical Imaging (ISBI),* 2024.

Minjoo Lim, **Keun-Soo Heo**, Jun-mo Kim, Bogyeong Kang, Weili Lin, Han Zhang, Dinggang Shen, and Tae-Eui Kam, "A Unified Multi-Modality Fusion Framework for Deep Spatio-Temporal-Spectral Feature Learning in Resting-State fMRI Denoising," *IEEE Journal of Biomedical and Health Informatics*, 2024.

Bogyeong Kang, Hyeonyeong Nam, Ji-Wung Han, **<u>Keun-Soo Heo</u>**, and Tae-Eui Kam, "Multi-view Cross-Modality MR Image Translation for Vestibular Schwannoma and Cochlea Segmentation," *MICCAI BrainLes Workshop*, 2022.

<u>Keun-Soo Heo</u>, Dong-Hee Shin, Sheng-Che Hung, Weili Lin, Han Zhang, Dinggang Shen, and Tae-Eui Kam, "Deep Attentive Spatio-Temporal Feature Learning for Automatic Resting-State fMRI Denoising," *NeuroImage*, 2022.

SCHOLARSHIP & AWARD

KOBRA TRAVEL AWARDS (KOBRA-TA) (₩3,000,000)   Jun. 2025

TEACHING EXPERIENCE

Korea University AI training program for LG CNS
Teaching Assistant
• Subject : Data AI   Sep. 2023 – Nov. 2023
• Advisor : Prof. Sejun Park

• Subject : Machine Learning   May. 2023 – Jun. 2023
• Advisor : Prof. Tae-Eui Kam