Junmo Kwon, Ph.D.

Postdoctoral Research Fellow
Education & Research Institute for Sustainable ICT Future Human Resources
Medical Image Processing (MIP) Lab, Sungkyunkwan University, Suwon, South Korea
E-mail: skenfn1231@skku.edu
Website: junmokwon.github.io

Research Interests

Medical Image Computing, Prompt-driven Medical Image Segmentation, Self-supervised Learning

Education

Ph.D. in Electronic and Electrical Engineering — Suwon, South Korea
Sungkyunkwan University — *Mar. 2018 – Feb. 2024*
- Thesis: Multimodal Artificial Intelligence for Addressing Data Scarcity and Class Imbalance
- Advisor: Hyunjin Park, Ph.D.

B.Sc. in Electronic and Electrical Engineering — Suwon, South Korea
Sungkyunkwan University — *Mar. 2013 – Feb. 2018*

Experiences

Postdoctoral Research Fellow — Suwon, South Korea
Sungkyunkwan University — *Mar. 2024 – Present*

In Accepted

* denotes equal contribution, † denotes corresponding author(s).

[A1] **Junmo Kwon**, Jonghun Kim, Taehyeon Kim, and Hyunjin Park†. "Estimated Age-Guided Cerebral Microbleed Segmentation", 29th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), Sep. 2026 **(Provisional accept: 9%)**.

Journals

* denotes equal contribution, † denotes corresponding author(s).

[J12] Jun Seok Lee*, **Junmo Kwon***, Jongmok Ha, Ji Hye Won, Jinyoung Youn, Hirohisa Watanabe, Hee Tae Kim, Hyunjin Park†, and Jin Whan Cho†. "Imaging biomarkers for early prediction of the transition from idiopathic late-onset cerebellar ataxia to multiple system atrophy", Parkinsonism & Related Disorders, Mar. 2026.

[J11] Jonghun Kim, Inye Na, **Junmo Kwon**, Woo-Keun Seo, and Hyunjin Park†. "Weakly-supervised segmentation using sparse single point annotations for lumen and wall of carotid arteries in 3D MRI", Computer Methods and Programs in Biomedicine, Sep. 2025.

[J10] **Junmo Kwon**, Jonghun Kim, and Hyunjin Park†. "Leveraging Segmentation-Guided Spatial Feature Embedding for Overall Survival Prediction in Glioblastoma with Multimodal Magnetic Resonance Imaging", Computer Methods and Programs in Biomedicine, Oct. 2024.

[J9] Jong Hyeon Ahn*, **Junmo Kwon***, Ji Hye Won, Kyoungseob Byeon, Jinyoung Youn, Hyunjin Park†, and Jin Whan Cho†. "Waiting impulsivity in progressive supranuclear palsy-Richardson's syndrome", Frontiers in Neuroscience, Sep. 2023.

[J8] Jinyoung Youn*, Ji Hye Won*, Mansu Kim, **Junmo Kwon**, Seung Hwan Moon, Minkyeong Kim, Jong Hyun Ahn, Jun Kyu Mun, Hyunjin Park†, and Jin Whan Cho†. "Extra-Basal Ganglia Brain Structures Are Related to Motor Reserve in Parkinson's Disease", Journal of Parkinson's Disease, Jan. 2023.

[J7] Eunjin Kim, Hwan-Ho Cho, **Junmo Kwon**, Young-Tack Oh, Eun Sook Ko†, and Hyunjin Park†. "Tumor-Attentive Segmentation-Guided GAN for Synthesizing Breast Contrast-Enhanced MRI Without Contrast Agents", IEEE Journal of Translational Engineering in Health and Medicine, Nov. 2022.

[J6] Joo Hwan Shin, **Junmo Kwon**, Jong Uk Kim, Hyewon Ryu, Jehyung Ok, Seok Joon Kwon, Hyunjin Park, and Tae-il Kim†. "Wearable EEG electronics for a Brain–AI Closed-Loop System to enhance autonomous machine decision-making", npj Flexible Electronics, May. 2022.

[J5] Hyebin Lee, **Junmo Kwon**, Jong-eun Lee, Bo-yong Park†, and Hyunjin Park†. "Disrupted stepwise functional brain organization in overweight individuals", Communications Biology, Jan. 2022.

[J4] Hwan-ho Cho, Ho Yun Lee†, Eunjin Kim, Geewon Lee, Jonghoon Kim, **Junmo Kwon**, and Hyunjin Park†. "Radiomics-guided deep neural networks stratify lung adenocarcinoma prognosis from CT scans", Communications Biology, Nov. 2021.

[J3] Jieun Choi, Hwan-ho Cho, **Junmo Kwon**, Ho Yun Lee, and Hyunjin Park†. "A Cascaded Neural Network for Staging in Non-Small Cell Lung Cancer Using Pre-Treatment CT", Diagnostics, Jun. 2021.

[J2] Seung-Hak Lee, Hwan-ho Cho, **Junmo Kwon**, Ho Yun Lee†, and Hyunjin Park†. "Are radiomics features universally applicable to different organs?", Cancer Imaging, Apr. 2021.

[J1] **Junmo Kwon**, Hyebin Lee, Soohyun Cho, Chin-Sang Chung, Mi Ji Lee†, and Hyunjin Park†. "Machine learning-based automated classification of headache disorders using patient-reported questionnaires", Scientific Reports, Aug. 2020.

Conference Proceedings

* denotes equal contribution, † denotes corresponding author(s).

[C9] **Junmo Kwon**, Sang Won Seo, Hwan-ho Cho, and Hyunjin Park†. "Identifying Optimal nnU-Net Configuration for Cerebral Microbleed Segmentation", IEEE 23rd International Symposium on Biomedical Imaging (ISBI), Apr. 2026 **(Oral presentation)**.

[C8] Sewook Oh, **Junmo Kwon**, Jonghun Kim, Sunghun Kim, Sinyoung Ra, and Hyunjin Park†. "DySC-CCA: Dynamic Similarity-Constrained Canonical Correlation Analysis for Multimodal Alzheimer's Diagnosis", IEEE 23rd International Symposium on Biomedical Imaging (ISBI), Apr. 2026 **(Oral presentation)**.

[C7] **Junmo Kwon**, Jonghun Kim, Taehyeon Kim, Sang Won Seo, Hwan-ho Cho†, and Hyunjin Park†. "Blood Pressure Assisted Cerebral Microbleed Segmentation via Meta-matching", 28th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), Sep. 2025.
(Provisional accept: 9%, oral presentation: 2%)

[C6] **Junmo Kwon**, Sang Won Seo, and Hyunjin Park†. "Enhancing Cerebral Microbleed Segmentation with Pretrained UNETR++", IEEE 18th International Conference on Bioinformatics and Biomedicine (BIBM), Dec. 2024.

[C5] **Junmo Kwon**, Sang Won Seo†, and Hyunjin Park†. "Anatomically-Guided Segmentation of Cerebral Microbleeds in T1-weighted and T2*-weighted MRI", 27th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), Oct. 2024.

[C4] **Junmo Kwon**, and Hyunjin Park†. "Joint Learning of Segmentation and Overall Survival for Brain Tumor based on U-Net", IEEE 36th International Symposium on Computer Based Medical Systems (CBMS), Jun. 2023.

[C3] Seungwan Jeong, Hwan-ho Cho, **Junmo Kwon**, and Hyunjin Park†. "Region-of-interest Attentive Heteromodal Variational Encoder-Decoder for Segmentation with Missing Modalities", 16th Asian Conference on Computer Vision (ACCV), Dec. 2022.

[C2] Mansu Kim, Ji Hye Won, Jisu Hong, **Junmo Kwon**, Hyunjin Park, and Li Shen†. "Deep Network-Based Feature Selection for Imaging Genetics: Application to Identifying Biomarkers for Parkinson's Disease", IEEE 17th International Symposium on Biomedical Imaging (ISBI), Apr. 2020.

[C1] Kyoungseob Byeon, **Junmo Kwon**, Jisu Hong, and Hyunjin Park†. "Artificial Neural Network Inspired by Neuroimaging Connectivity: Application in Autism Spectrum Disorder", 2020 IEEE International Conference on Big Data and Smart Computing (BigComp), Feb. 2020.

Awards

- MICCAI 2025 Registration Grant, MICCAI Society, 2025.
- First Place Award in COSMOS 2022 Grand Challenge, SMRA and MICCAI, 2022.
- Graduate Merit Scholarship, Sungkyunkwan University, 2018 – 2020.
- Academic Excellence Scholarship, Sungkyunkwan University, 2015 – 2017.
- Dean's List Award, Sungkyunkwan University, 2015 – 2016.
- National Science and Technology Scholarship, NRF Korea, 2015.

Grants

- Sejong Science Fellowship, Role: PI, Sponsor: MSIT and NRF Korea, Amount: **650,000,000** KRW,
  Period: Mar. 2025 – Feb. 2030.
  Development of a Unified Framework for Cerebral Small Vessel Disease Diagnosis with Missing Modality Adaptation

Technical Skills

Languages: Python, MATLAB, C
Frameworks: PyTorch, Keras, Tensorflow, MONAI, FSL, FreeSurfer, AFNI, ANTs, MRtrix3, SimpleITK
Developer Tools: PBS/Torque, Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ