

Won Jun Kim M.D.

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Education

Korea Advanced Institute of Science and Technology , MS in Artificial Intelligence	2023 - Present
• Advised by Prof. Jong Chul Ye (<i>Bio-imaging, Signal Processing, and Learning Lab</i>)	
Korea University , Bachelor of Medicine / Medical Doctor	2013 - 2019

Publications [†]Equal contribution

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| [1] Derivative-Free Diffusion Manifold-Constrained Gradients for Unified XAI
<i>Won Jun Kim[†]</i> , Hyungjin Chung [†] , Jaemin Kim [†] , Sangmin Lee, Byeongsu Sim, Jong Chul Ye | arXiv preprint |
| [2] LLM-CXR: Instruction-Finetuned LLM for CXR Image Understanding and Generation (Citations: 16)
Suhyeon Lee [†] , <i>Won Jun Kim[†]</i> , Jinho Chang, Jong Chul Ye | ICLR 2024 |
| [3] Association between adiposity and cardiovascular outcomes: an umbrella review and meta-analysis of observational and Mendelian randomization studies (Citations: 204)
Min Seo Kim, <i>Won Jun Kim</i> , Amit V Khara, Jong Yeob Kim, Dong Keon Yon, Seung Won Lee, Jae Il Shin, Hong-Hee Won | Eur Heart J 2021 |
| [4] Comprehensive Learning Curve of Robotic Surgery: Discovery From a Multicenter Prospective Trial of Robotic Gastrectomy (Citations: 114)
Min Seo Kim, <i>Won Jun Kim</i> , Woo Jin Hyung, Hyoung-Il Kim, Sang-Uk Han, Young-Woo Kim, Keun Won Ryu, Sungsoo Park | Ann Surg 2021 |
| [5] Comparative efficacy and safety of pharmacological interventions for the treatment of COVID-19: A systematic review and network meta-analysis (Citations: 198)
Min Seo Kim, Min Ho An, <i>Won Jun Kim</i> , Tae-Ho Hwang | PLoS Medicine 2020 |

Invited Talks

Vision-language models for medical images

Seoul National University College of Medicine, Department of Radiology

- Discussion of LLM-CXR and training large language models in the medical image domain

Achieving vision-language alignment in pretrained LLMs

Electronics and Telecommunications Research Institute (ETRI), Korea

- Discussion of LLM-CXR and finetuning the token space of an LLM to achieve vision-language alignment

Grant Projects

Plug-and-Play Explanation and Verification of Explanation Modules for Classification Neural Networks

Institute of Information & Communications Technology Planning & Evaluation (IITP) grant funded by Korea government Ministry of Science and ICT

- Development of an open-source XAI algorithm and software, in particular a model-agnostic feature attribution method that leverages diffusion models to ground the attributions to the image manifold.

Automated Computer-assisted Diagnosis (CAD) Module for Lung Nodule Screening

Korea Medical Device Development Fund grant funded by Korea government Ministry of Science and ICT; Ministry of Trade, Industry, and Energy; Ministry of Health & Welfare; Ministry of Food and Drug Safety

- Development of a high-accuracy lung nodule detection software for cancer screening with plain chest radiographs, using a custom self-supervised training scheme for the vision transformer.

Awards & Scholarships

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| • Dongwon-KAIST scholarship (full scholarship for tuition and stipend) | 2023-present |
| • Korea University Academic Excellence Award (GPA 4.5/4.5) | 2019 |

Teaching Experience

AI619 Medical Imaging and Signals (TA for Prof. Jong Chul Ye)	Fall 2024
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Other Experiences

Gangneung Correctional Institution	2019-2021
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- Infirmary physician for convicts and inmates

Hongseong Public Health Center	2021-2022
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- Primary care in medically underserved areas & COVID-19 pandemic response

Languages & Skills

- English: fluent (TOEFL iBT 119/120) | Korean: native | Japanese: conversational
- Proficient in Python, PyTorch, \LaTeX