JUNMO KIM

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SUMMARY

Medical AI researcher with 6+ years of experience building deep learning models on large-scale electronic health records (EHR) and physiological signal data. Published 9 first-author papers in top healthcare and medical informatics journals (npj Digital Medicine, JAMIA, eClinicalMedicine, Communications Medicine). Expertise in multimodal foundation models, clinical NLP, pharmacovigilance prediction, and scalable ML pipelines across multicenter hospital systems.

EXPERIENCE

Stanford University, Stanford, CA — Mar 2026 – Present

Postdoctoral Scholar — Dept. of Anesthesiology, Pain & Perioperative Medicine

- Conducting research on multimodal EHR foundation models using Omics data.

Seoul National University Hospital, Seoul, Korea — Jul 2020 – Feb 2026

Research Assistant — Biomedical Research Institute

- Designed 'MedRep', a novel medical concept representation framework for general EHR foundation models, enabling transferable patient embeddings across heterogeneous clinical datasets (published in JAMIA).
- Built an OMOP CDM-based EHR foundation model to predict diverse adverse drug events across multiple hospitals, demonstrating cross-institutional generalizability (published in Communications Medicine).
- Developed multimodal EHR + ECG foundation model for cardiovascular disease prediction, integrating structured clinical records with 12-lead ECG signals (under review, npj Digital Medicine).
- Engineered deep learning pipelines for pharmacovigilance: predicted C. difficile infections and cutaneous adverse drug reactions from longitudinal EHR data (2 papers in npj Digital Medicine).
- Led IRB/DRB compliance processes and managed large-scale clinical data across 5+ hospital sites under strict privacy protocols.

EDUCATION

Seoul National University — Ph.D. in Bioengineering — Mar 2021 – Feb 2026

Dissertation: *Toward Multimodal Electronic Health Record Foundation Models*

Korea University — B.S. in Industrial Management Engineering & Mathematics — Mar 2015 – Feb 2021

TECHNICAL SKILLS

ML / DL: PyTorch, TensorFlow, Scikit-learn, Hugging Face Transformers, Foundation Models, Multimodal Learning, Continual Learning

Data & Scale: Large-scale Data Processing (Ray, Modin, Multiprocessing), SQL (PostgreSQL, Oracle, BigQuery, MSSQL), OMOP CDM (Atlas), Physiological Signal Processing (Neurokit2, Physionet WFDB, VitalDB)

Languages: Python, SQL, R

Domain: Electronic Health Records, Multimodal Signal Processing (ECG, PPG, NIRS), Pharmacovigilance, OMOP CDM, IRB/DRB Compliance

SELECTED PUBLICATIONS

9 first-author publications including 2 in npj Digital Medicine, 1 in JAMIA, 1 in eClinicalMedicine (Lancet), 1 in Communications Medicine. Full list on Google Scholar.

- MedRep: Medical Concept Representation for General EHR Foundation Models. **JAMIA, 2026**
- Prediction of Antibiotic-Associated Cutaneous Adverse Drug Reactions Using EHR Foundation Models. **npj Digital Medicine, 2026**
- Pretrained Patient Trajectories for Adverse Drug Event Prediction Using CDM-based EHR. **Communications Medicine, 2025**
- Deep Learning-based Prediction of C. difficile Infection from Longitudinal EHR. **npj Digital Medicine, 2024**
- Deep Learning Long-term Risk Evaluation of Type 2 Diabetes Using ECG in Non-diabetic Populations. **eClinicalMedicine (Lancet), 2024**

AWARDS

Youlchon Foundation AI for All Fellowship ($15,000/year), AI Institute at Seoul National University — 2021 – 2025