SEOYOUNG OH

H.P 010 9810 0402
Email inmani1555@gmail.com
Birth 2004.02.17
Website https://seoyoungoh.com/
GitHub https://github.com/5seoyoung
LinkedIn https://www.linkedin.com/in/5seo0/



I am a researcher in medical AI, focused on solving practical problems in clinical settings with data and machine learning. Rather than working broadly across application domains, I aim to build depth in medicine, where the impact on human life and quality of life is most direct. My research centers on trustworthy and explainable **Medical AI**, based on the belief that predictive performance alone is not enough for clinical adoption; what matters equally is how far a model's predictions can be trusted and how well its reasoning can be explained.

EDUCATION

Kookmin University — **Seoul, Korea**
B.S., AI Big Data & Management (Major) & Artificial Intelligence (Minor) — **Mar 2023 – Present**
Expected graduation: Feb 2027

EXPERIENCE

Seoul National University Hospital — **Seoul, Korea**
Researcher, Department of Transdisciplinary Medicine — **Dec 2025 – Present**

Key Projects

• **Department of Gastroenterology,** Reliability Assessment of CT-Based Colonic Morphology Measurements for Predicting Difficult Colonoscopy.

Investigating the reliability of CT-derived colonic morphology measurements, including colon length and tortuosity, as potential predictors of difficult colonoscopy. Evaluated public CT segmentation outputs for topological errors and measurement discrepancies, and developed quality-control strategies to identify unreliable measurements before downstream clinical prediction.

October 2026 - Present.

• **Department of Critical Care Medicine**, Study of Excess Mortality and Environmental Dependence in Antibiotic-Resistant Bacteremia in Intensive Care Units.

Validated the contribution of six resistance phenotypes to in-hospital mortality in Korean multicenter ICU data (K-MIMIC) using within-species resistant-susceptible comparison designs and transferred the same phenotype definitions to the U.S. MIMIC-IV cohort to analyze differences in resistance distributions and effect sizes between the two healthcare environments.

August 2026 - Present.

• **Department of Pathology**, Quantification of Label Noise Bias in Transcriptomic Tissue Organization Metrics.

In a kidney Xenium cohort, identified an asymmetry in which composition and spatial organization respond in opposite directions to the same label noise, and aim to identify conditions under which the resulting quality perturbation is disguised as spurious disease-group differences and propose analysis-specific QC criteria to prevent this.

June 2026 - Present.

• **Department of Orthopedic Surgery,** Self-Supervised Foundation Model Development for MSK X-ray Landmark Detection.

Developed a foundation model for landmark detection that elevates cross-patient correspondence as the primary pretraining objective, using anatomical correspondence structures in standardized musculoskeletal X-rays as an unlabeled supervisory signal.

May 2026 - Present.

• **Department of Breast and Endocrine Surgery,** Evidence-Based Deep Learning through Ensemble Epistemic Uncertainty Distillation.

Developed a single-pass uncertainty quantification method that distills the epistemic uncertainty of an ensemble teacher into the Dirichlet strength of a single EDL student. Orthogonally decomposed the Dirichlet space into radial and angular subspaces to inject only sample-wise epistemic uncertainty while preserving classification performance.

March 2025 - Present.

JOURNALS

• Kim, J., **Oh, Seoyoung**, Lee, Y., Kim, M., Kim, K. M., Kim, Y. G.

EpiDistill: Orthogonal Radial Regularization for Epistemic Uncertainty Distillation in Evidential Deep Learning. (In writing)

• **Oh, Seoyoung,** Kim, H. Y., Park, Y. S.

Development and Validation of Machine Learning Models for Predicting Operative Duration in Assisted Reproductive Technology Procedures.

BMC Medical Research Methodology, 2026.

https://link.springer.com/article/10.1186/s12874-026-02791-7

CONFERENCES

• Kim JW, **Oh, Seoyoung**, Moon HG, Kim KM, Kim YG.

Robust Single-Pass Uncertainty Quantification for Data-Scarce, Class-Imbalanced Medical Imaging via Ensemble Epistemic Uncertainty Distillation.

Korean Society of Artificial Intelligence in Medicine (KoSAIM).

Poster Presentation, 2026 (**Best Poster Presentation Award**)

• **Oh, Seoyoung**, Kim JW, Moon HG, Lee YN, Kim SJ, Kim KM, Kim YG.

On-device Three-Dimensional Breast Lesion Visualization from Multi-channel A-mode Ultrasound for Home Use.

Korean Society of Medical Informatics (KOSMI).

Poster Presentation, 2026.

• **Oh, Seoyoung**, Lee, Y., Moon, H. G., Byeon, J., Jang, B., Kim, J., Kim, K. M., Kim, Y. G.

A Multi-channel-based Multiple Instance Learning Model for Early Breast Tumor Detection with Uncertainty Quantification for Improved Prediction Reliability.

Korean Society of Medical Informatics (KOSMI).

Poster Presentation, 2026.

• Moon, H. G., Kim, Y. G., Byeon, J., Lee, Y., Kim, K. M., **Oh, Seoyoung**.

A Multiple Instance Learning-based Deep Learning Model with Multi-channel Input for Early Detection of Breast Tumor.

American Society of Clinical Oncology (ASCO).
Abstract Published Online, 2026.

AWARDS

2026

- 1st Place - Kookmin University College of Business Administration Career Portfolio Competition
  Kookmin University College of Business

- **3rd Place - Korea Clinical Datathon 2026**
  Seoul National University Hospital (SNUH) · Massachusetts Institute of Technology (MIT)
  Development of an AI Agent to Identify the Causes of Elevated Liver Enzymes and Predict Outcomes in ICU Patients
  https://www.nursenews.co.kr/news/articleView.html?idxno=45310

- 1st Place - 2026 AX Idea Competition (Individual); **Minister's Award**
  Ministry of Climate, Energy and Environment · Korea Electric Power Corporation and other public institutions
  https://www.etnews.com/20260705000007

- 1st Place - KyungHee University Medical AI App Idea Competition
  KyungHee University College of Medicine · Medical AI Convergence Talent Development Program
  https://aim.khu.ac.kr/board/event.php?ptype=view&idx=75&page=1&code=event

2025

- **Kookmin Talent Award - 79th Anniversary Commemorative Student Award (Individual)**
  Kookmin University · President's Commendation
  https://www.hani.co.kr/arti/economy/biznews/1224434.html?utm_source=copy&utm_medium=copy&utm_campaign=btn_share&utm_content=20261105

- **2nd Place - Konyang Health Datathon (KHD)**
  Konyang University Medical Center · DACON · Data-Centric Hospital Consortium · DICIA
  http://www.docdocdoc.co.kr/news/articleView.html?idxno=3031407

- **2nd Place - 9th Digital Healthcare MEDICAL HACK**
  Busan Metropolitan City · Pusan National University Hospital · Pusan National University · Busan Techno Park
  Clinical Handover Change-Summarization System (MediRelay)
  http://www.medworld.co.kr/news/articleView.html?idxno=248661

- 2nd Place - 2025 Chuncheon Generative AI Idea Competition (Individual)
  Chuncheon City · WesleyQuest Co., Ltd.
  http://www.seoulilbo.com/news/articleView.html?idxno=751588

- 2nd Place - Kookmin University College of Business Startup Competition (Individual)
  Kookmin University College of Business

- Story UP Scholarship - College of Business, Fall Semester (Individual)
  Kookmin University · Full-tuition scholarship

2024

- 3rd Place - 2nd Kookmin University AI & Big Data Analytics Competition
  Kookmin University Graduate School of Business · Korea Association of Machinery Industry (supporting institution)
  https://www.hani.co.kr/arti/economy/biznews/1173668.html?utm_source=copy&utm_medium=copy&utm_campaign=btn_share&utm_content=20261105

2023

• 4th Place - Kookmin University Climate Change Response Business Idea Competition
Kookmin University Climate Change Response Project Group

EXTRA-CURRICULAR ACTIVITY

2025.09 - 2025.12 Capstone Project | Kookmin University

• From Gaze to Data: Creating New Marketing Insights.
Translated gaze-tracking data into quantitative marketing insights.
http://github.com/5seoyoung/gaze2data

2025.03 - 2025.11 Member, X:AI - Artificial Intelligence Society | Kookmin University

• Real-time Parking Guidance System via CCTV Object Detection and Space Prediction.
Built an end-to-end pipeline detecting vehicles from CCTV streams and predicting space availability in real time.
http://github.com/5seoyoung/KMU-Smart-Parking-Monitor

2025.01 - 2025.11 Vice President, D&A - AI & Big Data Society | Kookmin University

• Managed college-level AI servers, ensuring stable operation for academic and research use.
• Designed and taught three in-house curricula to 100+ student members:
Basic: Python fundamentals for data analysis, covering preprocessing, analysis, and visualization, concluding with a team competition.
ML: core machine learning algorithms underlying data analysis and AI, applied through a team competition.
Deep: deep learning from MLP to CNN and RNN families, extending to Seq2Seq and Transformer through paper reviews.

Startup Activity

Team MediX - Lead AI Developer
Summarization System for Clinical Handover
2025.04 - 2025.09

• *https://unleashed-oil-858.notion.site/medix-medirelay*
Seoul AI Hub - Seoul AI Young Track (SAY Track) | Final Selection & Completion
Yonsei University Y-Compass Student Startup Program | Final Selection (Grade A)
9th Digital Healthcare MEDICAL HACK, Grand Prize (President of Pusan National University Award)
Student Startup Promising Team U 300+ (Ministry of SMEs and Startups) | Final Selection

Team Hellotica - Technical Lead
A Postpartum Recovery Management Platform Bridging the Postpartum Care Gap Through Clinical Evidence and Public Resource Integration
2026.04 - ing

• *https://onmoom.com/*
Advanced to the Second Round of the 2026 GovTech Startup Competition, hosted by the Ministry of Science and ICT (Ongoing)
Advanced to Round 1 of the 2026 Modu's Startup Program, hosted by the Ministry of SMEs and Startups (Ongoing)
Kyung Hee Medical Center and Kyung Hee University Hospital at Gangdong: Initial contact established; Proof of Concept (PoC) preparation underway.

CERTIFICATE

• **2024** *ADsP (Advanced Data Analytics Semi-Professional)* | Korea Data Agency

SKILLS

- Programming
  Python, R.

- ML / DL Frameworks
  PyTorch, scikit-learn.

- Medical Imaging
  Musculoskeletal X-ray, Landmark Detection, Medical Image Analysis, Self-supervised Pretraining.

- Computer Vision
  Object Detection, Landmark Detection, Image Representation Learning, Cross-patient Correspondence.

- Deep Learning
  Epistemic Uncertainty Quantification, Evidential Deep Learning (EDL), Knowledge Distillation, Ensemble Learning.