

YOONSEOK LIM

✉ seook6453@gmail.com 🏠 <https://doldolee.github.io>

CURRENT POSITION

Seoul National University Hospital Researcher, Office of Hospital Information Research Advisor: <i>Hyun-Lim Yang, ByoungJun Jeon</i>	Feb 2025 - <i>Seoul, South Korea</i>
---	---

EDUCATION

Soongsil University M.S in Industrial and Information Systems Engineering Academic Advisor: <i>Sujee Lee, AI-Healthcare Lab</i> GPA: 3.96/4.0	Mar 2022 - Feb 2024 <i>Seoul, South Korea</i>
Soongsil University B.S in Industrial and Information Systems Engineering GPA: 3.69/4.0 (cumulative), 3.68/4.0 (major) Leave of absence for military service: April 2018 – Nov 2019	Mar 2016 - Feb 2022 <i>Seoul, South Korea</i>

CURRENT RESEARCH PROJECTS

-
- Emergency Department Multi-Agent Clinician. [[url](#)]
 - Development of an Autonomous Pre-operative Setup Robot Platform Powered by LLM–VLA Integration

PUBLICATIONS AND PREPRINTS

Under Review

1. **Y. Lim**, G. Shin, B. Jeon, H. Yang, M. Lim, J. Leigh
Assessing Senior Driver Safety through Trajectory-level Inverse Reinforcement Learning: a Multidimensional Evaluation for Conditional Licences, *Nature Machine Intelligence*.
2. **Y. Lim**, B. Jeon, S. Park, J. Lee, S. Choi, C. Jeong, H. Ryu, H. Lee, H. Yang
Large Language Model-augmented Offline Reinforcement Learning Framework for Sepsis Management in Critical Care [MORE-CLEAR], *NPJ Digital Medicine*, [Preprint](#)
3. **Y. Lim**, S. Lee
Generalizable Repetition Counting via Metric-Based Few-Shot Learning on Wearable Motion Signals, *IEEE Sensors*, [Preprint](#)

Revision

1. **Y. Lim**, I. Park, S. Lee
Trustworthy ICU Care: an Uncertainty-Aware Reinforcement Learning Framework for Safer Drug Dosing, *Journal of Biomedical Informatics*.
2. **Y. Lim**, I. Park, S. Lee
A Reinforcement Learning Framework for Personalized Anticoagulation Dosing in Critical Care: Integrating Batch-Constrained Policy Optimization and Off-Policy Evaluation, *IEEE Access*, [Preprint](#)

Journal Papers

1. **Y. Lim**, S. Lee
OMG-RL: Offline Model-based Guided Reward Learning for Heparin Treatment. *Biomedical*

Engineering Advances, **2025**

2. E. Kim, **Y. Lim**

Mapping Interconnectivity of Digital Twin Healthcare Research Themes through Structural Topic Modeling. *Scientific Reports*, **2025**

3. S. Lee, **Y. Lim**, K. Lim

Multimodal Sensor Fusion Models for Real-Time Exercise Repetition Counting with IMU Sensors and Respiration Data. *Information Fusion*, **2024**

4. Y. Choe, S. Lee, **Y. Lim**, S. Kim

Machine Learning-Derived Model for Predicting Poor Post-Treatment Quality of Life in Korean Cancer Survivors. *Supportive Care in Cancer*, **2024**

CONFERENCE PRESENTATIONS

1. **Y. Lim**, I. Park, S. Lee

Improving Medication Treatment Policies with Batch Deep Reinforcement Learning Algorithms, Conference of the Korean Institute of Industrial Engineers (KIIE), Jeju, Korea, Jun **2023**

2. **Y. Lim**, K. Lim, S. Kim, M. Lee, I. Cho, S. Lee

Meta-Learning Based Exercise Repetition Counting Framework Using a Head-mounted IMU Sensor, Conference of the Korean Institute of Industrial Engineers (KIIE), Jeju, Korea, Jun **2023**

3. K. Lim, **Y. Lim**, C. Kang, S. Lee

Establishment of BERT-based Personalized Course Recommendation System, Conference of the Korean Institute of Industrial Engineers (KIIE), Jeju, Korea, Jun **2023**

4. M. Lee, S. Kim, I. Cho, **Y. Lim**, S. Lee

SSULET: Real-Time Deception Detection Deep Learning Model, Conference of the Korean Institute of Industrial Engineers (KIIE), Jeju, Korea, Jun **2023**

5. **Y. Lim**, S. Lee

Decision for Optimal Policies on Heparin Treatment using Reinforcement Learning, Conference of the Korea Data Mining Society (KDMS), Busan, Korea, Aug **2022**

RESEARCH PROJECTS

Samsung Electronics, Korea

Sep 2023 - Feb 2024

- Development of an AI Model and Service Concept based on Canine Activity Data
- Main Duties: Proposal writing, Experiment design and implementation, Model development

Soongsil University, Korea

Mar 2023 - Dec 2023

- Development of a Course Recommendation System based on Natural Language Data
- Main Duties: Data collection and analysis

Samsung Electronics, Korea

Jun 2022 - Oct 2022

- Development of a Counting Algorithm based on Human Activity Data
- Main Duties: Experiment design and implementation, Model development

PERSONAL PROJECTS

3D Medical Segmentation

- Implementation of Various 3D Image Segmentation Models [[github](#)]

Traffic Sign Detection

- Evaluation of Various Object Detection Model using 2 benchmark datasets [[github](#)]

Autonomous Driving Temperature Measurement Robot

- Development of the Autonomous Driving Robot using Computer Vision, Reinforcement Learning, and Edge Computing technologies [[github](#)]

SERVICES

Reviews

- Supportive Care in Cancer (2025)
- IEEE Robotics and Automation Letters (IEEE R-AL), Transactions on Industrial Informatics (2024)
- IEEE International Conference on Automation Science and Engineering (IEEE CASE) (2022, 2023)

PATENT

Exercise Data Processing Method and Electronic Device Performing the Same.
<https://doi.org/10.8080/1020220187795>. April. 2024.

WORK EXPERIENCE

Manufacturing Systems Laboratory, Soongsil University

Researcher

- Research topic : LLM tuning using Reinforcement Learning May 2024 - Jan 2025

DataTree

Data Analyst Intern

- Investigating and analyzing a Korean corpus parsing system Jan 2021 - Jun 2021

Wantreez Music

Software Engineer

- Planning and developing a company CMS website Sep 2020 - Dec 2020

HONORS AND AWARDS

Scholarships

Superior Academic Performance Scholarship, Soongsil University	Spring 2022 - Fall 2023
College Achievement Scholarship, College of Engineering, Soongil University	Fall 2021
Superior Academic Performance Scholarship, Soongsil University	Fall 2016

Awards

Gold Prize, Hyeongnam Science Award	Dec 2021
Honorable Mention, Hanium Contest	Dec 2021
· Travel Destination Recommendation Application	
Honorable Mention, Hanium Contest	Dec 2020
· Data Quality Analysis Website	

SKILLS

Programming Language: Python, R, C++, JavaScript, Node JS, Kotlin

Machine Learning: PyTorch, TensorFlow

Others: Raspberry pie, Arduino

RELEVANT COURSEWORK

Mathematics

Probability and Statistics, Linear Algebra, Engineering Mathematics, Machine Learning Mathematics

Machine Learning

Reinforcement Learning, Deep Learning, Data Analysis and its Applications, Data Mining, Data structures and Algorithms, Big data processing, Robot Vision