

# YOOSEOK LIM

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## EDUCATION

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### Soongsil University

M.S in Industrial and Information Systems Engineering, *Advisor: Sujee Lee*  
AI-Healthcare Lab. [[homepage](#)]  
GPA: 3.92/4.0

Mar 2022 - Feb 2024

*Seoul, Korea*

### Soongsil University

B.S in Industrial and Information Systems Engineering  
GPA: 3.59/4.0 (cumulative), 3.58/4.0 (major)  
Leave of absence for military service: April 2018 – Nov 2019

Mar 2016 - Feb 2022

*Seoul, Korea*

## RESEARCH INTERESTS

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- Integration of Deep Learning Methods for **Healthcare Applications**
  - Computer Vision, Reinforcement Learning, NLP, Ubiquitous Computing

## PUBLICATIONS AND PREPRINTS

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### Preprints

1. **Y. Lim**, S. Lee  
OMG-RL:Offline Model-based Guided Reward Learning for Heparin Treatment,  
Preprint, under review, **2024**
2. **Y. Lim**, I. park, S. Lee  
Development and Validation of Heparin Dosing Policies using an Offline Reinforcement  
Learning Algorithm, Preprint, under review, **2024**
3. **Y. Lim**, S. Lee  
Intelligent Repetition Counting for Unseen Exercises: A Few-Shot Learning Approach with  
Sensor Signals, Preprint, under review, **2024**

### Journal Papers

1. 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**
2. 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

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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

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|--|---------------------|
| <b>Samsung Electronics, Korea</b>  | Sep 2023 - Feb 2024 |
| <ul style="list-style-type: none"><li>· Development of an AI Model and Service Concept based on Canine Activity Data</li><li>-Main Duties: Proposal writing, Experiment design and implementation, Model development</li></ul> |                     |
| <b>Soongsil University, Korea</b>  | Mar 2023 - Dec 2023 |
| <ul style="list-style-type: none"><li>· Development of a Course Recommendation System based on Natural Language Data</li><li>-Main Duties: Data collection and analysis</li></ul>  |                     |
| <b>Samsung Electronics, Korea</b>  | Jun 2022 - Oct 2022 |
| <ul style="list-style-type: none"><li>· Development of a Counting Algorithm based on Human Activity Data</li><li>-Main Duties: Experiment design and implementation, Model development</li></ul>                               |                     |

## PERSONAL PROJECTS

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- 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

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- Reviews**
  - IEEE Robotics and Automation Letters(IEEE R-AL)(2024)
  - IEEE International Conference on Automation Science and Engineering(IEEE CASE)(2022,2023)

## PATENT

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Algorithm for counting weight training using motion data and breathing data together

## WORK EXPERIENCE

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| <b>DataTree</b><br>Data Analyst Intern | Jan 2021 - Jun 2021 |
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- Investigating and analysis a korean corpus parsing system

### **Wantreez Music**

Software Engineer

Sep 2020 - Dec 2020

- Planning and developing a company CMS website

## **HONORS AND AWARDS**

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### **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**

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

Machine Learning: PyTorch, TensorFlow, Jax

Others: Raspberry pie, Arduino, ROS

## **RELEVANT COURSEWORK**

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### **Mathematics**

Probability and Statistics, Linear Algebra, Engineering Mathematics (Discrete 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