

# Gwanghan Lee

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## Interests

Model Compression, Deep Learning, and Machine Learning

## Education

### Sungkyunkwan University

M.S. IN DEPARTMENT OF ARTIFICIAL INTELLIGENCE

*Suwon, S.Korea*

*2020.03 - Current*

### Konkuk University

B.S./M.S. IN ORGANIC AND NANO SYSTEM ENGINEERING

*Seoul, S.Korea*

*2011.03 - 2019.02*

## Publication

### INTERNATIONAL

- [C3] "Accelerating CNN via Dynamic Pattern-based Pruning Network"  
**Gwanghan Lee**, Saebyeol Shin, and Simon S. Woo.  
International Conference on Information and Knowledge Management (**CIKM**) 2022.  
(BK Computer Science IF=3)
- [C2] "EMGNet:Efficient Multi-Scale Feature Generation Adaptive Network"  
**Gwanghan Lee**, Minha Kim, Minha Kim, and Simon S. Woo.  
International Conference on Information and Knowledge Management (**CIKM**) 2021.  
(BK Computer Science IF=3, Acceptance Rate : 21.7%)
- [C1] "Exploring Group Sparsity using Dynamic Sparse Training"  
Geunhye Jo, **Gwanghan Lee**, and Dongkun Shin.  
IEEE International Conference on Consumer Electronics Asia (**ICCE-Asia**) 2020

### DOMESTIC

- [C2] "Efficient Multi-Scale Feature Generation Network"  
**Gwanghan Lee**, Saebyeol Shin, and Simon S. Woo.  
Korea Computer Congress (**KCC**), 2022
- [C1] "Gradual Group-level Pruning with Dynamic Sparse Training"  
**Gwanghan Lee**, and Dongkun Shin.  
Korea Computer Congress (**KCC**), 2020

## Journal

### INTERNATIONAL

- [J1] "Development of fashion recommendation system using collaborative deep learning"  
**Gwanghan Lee**, Sungmin Kim, and Chang Kyu Park (**equally contribution**).  
International Journal of Clothing Science and Technology (IF = 1.15), 2022.

## project

### Research on Object Detection in Aerial Images

MODELING

- Contributed to the development of rotated object detection network

*HANHWA*

*2022.05 - Current*

### Research on solving mathematical problems using natural language processing technology

RESEARCH ON MODEL COMPRESSION

- Contributed to the development of efficient transformer network. (knowledge distillation)

*IITP*

*2021.07 - 2021.12*

## Software Framework for Intelligent IoT Devices

RESEARCH ON MODEL COMPRESSION

- Contributed to the development of efficient network. (pruning, knowledge distillation, optimization)

IITP, SW starlab

2020.03 - 2021.01

## Internship

### SKT AI Fellowship

MODELING & APPLICATION

- Research and develop deep learning model to colorize past historical images.

SKT

2022.06 - Current

## Honor & Awards

### INTERNATIONAL

- 2022 **Gold medal (9th/828)**, BirdCLEF 2022
- 2022 **Silver medal (21st/1565)**, UW-Madison GI Tract Image Segmentation
- 2021 **Silver medal (41st/874)**, Bristol-Myers Squibb – Molecular Translation

Kaggle

Kaggle

Kaggle

### DOMESTIC

- 2021 **1st Place**, Camera Image Quality Improvement AI Competition
- 2021 **1st Place**, SKT CCTV Security Video Image Object Detection
- 2021 **1st Place**, 2021 Pangyo AI Challenge
- 2021 **1st Place**, News topic classification using KLUE data
- 2021 **2nd Place**, Electrical energy quality classification AI Contest
- 2021 **2nd Place**, Ego-Vision Hand Gesture Recognition AI Competition
- 2021 **Awards (KRW 273M in support)**, 2021 AI Grand Challenge 5th
- 2020 **3rd Place**, Collider detection AI contest using vibration data
- 2020 **2nd Place**, Bio-Optical Data Analysis AI Contest
- 2020 **3rd Place**, AI Challenge for temperature estimation using public data
- 2019 **2nd Place**, Jeju BigData Competition
- 2019 **3rd Place (leaderboard 5th)**, Kakao brunch article recommendation competition

LG AI Research

SKT

AICONNECT

DACON

NIPA

NIA/DACON

IITP

KAERI/DACON

AI i-CON/DACON

KIMM/DACON

JTP/DACON

KAKAO

### SCHOLARSHIP

- 2021 **Best Paper Scholarship**, Sungkyunkwan University
- 2021 **Academic Excellence Scholarship**, Sungkyunkwan University

SKKU

SKKU

## Teaching

### Undergraduate Research Program

DEEPLARNING PROJECT MENTOR

- Lecture on the entire pipeline from image pre-processing, modeling, and post-processing.
- A Guide to Deepfake Detection Research.
- A Guide to Efficient Deepfake Detection Research.

Suwon, S.Korea

2021.03 - 2021.12

## Skills

### Programming

Python

### Deeplearning Framework

Pytorch