

# HYOUNGWON SEO

☎ +82 10-7200-2360 | ✉ guddnjs2366@gmail.com | Artificial Intelligence & Media Lab. (AIMLab)

## Education

### Hanbat National University (Advisor: Prof. Haneol Jang)

Undergraduate Student in Department of Computer Engineering  
GPA 3.93/4.5 (Major: 4.09/4.5)

Daejeon  
Mar. 2019 - Present

## Publications

### Conference

- [1] Hyoungwon Seo, Dongsu Kim, Seoyeon Oh, Jisang Lee, and Haneol Jang. “Effective Detection of Generated Images Using Fast Fourier Transform and Discrete Cosine Transform”, *kdfs2023*, November 2023.
- [2] Jisang Lee, Hyoungwon Seo, and Haneol Jang, “Crop-Paste Technique for Enhancing Object Detection Performance in Synthetic Aperture Radar Images”, *kcc2024*, June 2024.
- [3] Hyoungwon Seo, Jisang Lee, and Haneol Jang, “Data Preprocessing and Augmentation Methods for SAR to Optical Image Translation”, *kcc2024*, June 2024.

## Research Projects

### Cybersecurity Policy Domain Natural Language Processing Research

National Security Research Institute

Python, PyTorch  
June 2023 - Nov. 2023

- Crawling and preprocessing of Cybersecurity policy domain document
- Research of cybersecurity policy domain document classification

### Research on Detecting Generated Images

Research

Python, PyTorch  
Nov. 2023 - Dec. 2023

- Improved classification of models distinguishing real and generated images
- Proposed and experimented with effective preprocessing methods and Fourier transformation in detecting generated images

### Classification Model for Detecting Face Spoofing Attacks

AI Personal Term Project

Python, PyTorch  
Sep. 2023 - Nov. 2023

- Improve classification models distinguishing live images from spoof images
- Explore and apply methods in data augmentation, preprocessing, and face anti-spoofing

### Semantic Segmentation Model for Cloud Detection in Satellite Images

AI Team Term Project

Python, PyTorch  
Apr. 2024 - May 2024

- Improve semantic segmentation models classifying thick clouds, thin clouds, and cloud shadows in satellite images
- Explore and apply methods in data augmentation, preprocessing, and cloud detection

### Research on SAR Image Analysis and Semantic Segmentation

Capstone Design

Python, PyTorch  
Jan. 2024 - present

- Explored and applied SAR image preprocessing techniques
- Investigated and experimented with data augmentation for semantic segmentation of SAR images
- Researched SAR image translation (SAR to Optical, Optical to SAR)
- Explored methodologies in unsupervised domain adaptation(UDA) and knowledge distillation(KD) for SAR images

## Awards and Honors

### Competition Award

4th Prize(SW중심대학협의회 회장상), *SWuniv AI Competition 2023*  
(Satellite Image Building Area Segmentation)

Aug. 2023

### Best Paper Award

President's Award(학회장상), Effective Detection of Generated Images Using Fast Fourier Transform and Discrete Cosine Transform, *Korean Digital Forensics Society 2023*

Dec. 2023

### Competition Award

Grand Prize, *Research and Development Special Zone Promotion Foundation*  
(Global Wildfire Detection Challenge: Leveraging AI for Enhanced Satellite Imagery Analysis)

Apr. 2024

## Technical Skills

### Programming

Python, Java, C, C++

### Professional Softwares

PyTorch

### Languages

Korean(Native), English(Beginner)

# Teaching Experiences

---

## Data Structure Class

Teaching Assistant (Prof. Haneol Jang)

*Hanbat National University*

Mar. 2022 - June 2022

## Artificial Intelligence Class

Teaching Assistant (Prof. Haneol Jang)

*Hanbat National University*

Sep. 2023 - Dec. 2023

## Computer Vision Class

Teaching Assistant (Prof. Haneol Jang)

*Hanbat National University*

Mar. 2024 - present