HYOUNGWON SEO

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

Education

Hanbat National University (Advisor: Prof. Haneol Jang) *Daejeon*

Undergraduate Student in Department of Computer Engineering Mar. 2019 - Present

GPA 3.93/4.5 (Major: 4.09/4.5)

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 *Python, PyTorch*

National Security Research Institute June 2023 - Nov. 2023

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

Research on Detecting Generated Images *Python, PyTorch*

Research 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 *Python, PyTorch*

AI Personal Term Project 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 *Python, PyTorch*

AI Team Term Project 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 *Python, PyTorch*

Capstone Design 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)