

# Hyungtak Lee

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## EDUCATION

### Iowa State University

*Ph.D. of Science in Computer Science*

Expected Graduation: May 2028

### Kwangwoon University

*Bachelor of Engineering in Computer Engineering*

Mar. 2017 – Feb. 2023

GPA: 4.29/4.5(3.81/4.0)

## TECHNICAL SKILLS

**Tools:** C, C++, Python, ARMv8 Assembly, Scheme, Numpy, Pytorch, TensorFlow, CUDA, SQL, Linux

**Areas:** Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Operating System, Computer Architecture, Computer Networks

## PUBLICATIONS

- **Hyungtak Lee**, Seongju Kang, and Kwangsue Chung. “Robust Data Augmentation Generative Adversarial Network for Object Detection” Sensors, Dec 2022 (SCIE, IF: 3.847) [pdf]
- **Hyungtak Lee**, Seongju Kang, and Kwangsue Chung. “Object Detection with Dataset Augmentation for Fire Images Based on GAN” 13th International Conference on Information and Communication Technology Convergence (ICTC), Oct 2022 [pdf]
- **Hyungtak Lee**, Seongju Kang, Jaegi Hwang, and Kwangsue Chung. “Object Detection Dataset Generation Framework using GAN” Korea Computer Congress (KCC), Jun 2022 [pdf]
- Chi-Hyun Ahn, **Hyungtak Lee**, and Kwangsue Chung. “IoT Collaboration System Based on Edge Computing for Smart Livestock System” Journal of the Korea Institute of Information and Communication Engineering (JKIICE), Feb 2022 [pdf]

## EXPERIENCE

### Undergraduate Research Assistant | *Computer Communications Lab, Kwangwoon Univ.* 📁 Jul. 2021 – Aug. 2023

- Participated in government-sponsored research projects under the guidance of Prof. Kwangsue Chung
- Attained project on generative modeling and data augmentation
- Executed project on development of lightweight object detection framework for edge devices

### Korean Augmentation to the United States Army | *1st TTSB, 8th Army*

Dec. 2019 – Jul. 2021

- Worked at S3 in brigade headquarter as a Cable Systems Installer-Maintainer (25L)
- Supported operating NIPR, SIPR, and CENTRIXS-K networks
- Won Army Commendation Medal (ARCOM) and Coin of Excellence from 311<sup>th</sup> Signal Commnad at Hawaii

### Member | *Iamroot* 📁 🌐

May 2019 – Dec. 2019

- Analyzed ARMv8 Linux kernel from the boot process
- Discussed kernel's procedures and data structures and as well as ARMv8 processors

## PROJECTS

### Robust Data Augmentation Generative Adversarial Network

May 2022 – Dec. 2022

- Developed a deep learning model that augments fire image dataset
- Proposed a novel model architecture for image generation with bounding boxes