SangWoo Lee

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Education

Hanbat National University (Advisor: Prof. Dong-Geol Choi) Mar. 2021 – Feb 2023
MS in Department of Information and Communication Engineering *Daejeon, Republic of Korea*

Hanbat National University Mar. 2015 – Feb 2021
BS in Department of Information and Communication Engineering *Daejeon, Republic of Korea*

International Publications(* indicates equal contribution)

A Lightweight Sampler for Efficient Action Recognition via Self-supervised Learning in surveillance system ICRA-RAL 2022 under review
Minseok Seo, Donghyeon Cho*, **Sangwoo Lee**, Jongchan Park, Daehan Kim, Jaemin Lee, Jingi Ju Hyeoncheol Noh and Dong-Geol Choi*

Domestic Publications(* indicates equal contribution)

Spatial-temporal Ensemble Method for Action Recognition KROS 2020
*Minseok Seo, **Sangwoo Lee**, and Dong-Geol Choi*

Honors and Awards

VisDA 2021 Challenge NeurIPS2021 Workshop Challenge
Team AirLab *on going(1st)*

Capstone Design Competition Hanbat National University 2020
Sangwoo Lee *2rd*

Projects

Apr. 2019 - Sep. 2021 **Action Recognition Algorithm Development** | ***Python, Pytorch***

- **2020** : The goal was to develop a computationally efficient Action Recognition network, and through **"A Lightweight Sampler for Efficient Action Recognition via Self-supervised Learning"**, the amount of computation compared to the existing performance was reduced by more than 50%. (**Source Domain Subset Sampling for Semi-Supervised Domain Adaptation in Semantic Segmentation**)
- **2021** : The goal of this project is to achieve state-of-the-art performance on the UCF-Crime dataset, and we have achieved

Development of Deep-Meta Extractor | *Python, Pytorch* **Jul. 2020 - Jul. 2021**

- **2020** : Development of face detection and recognition technology (200 FPS achieved by applying **TensorRT**.), Text detection and recognition technology development. (Achieved 150 FPS by applying **TensorRT**.)
- **2021** : The goal is to integrate and optimize face recognition, character recognition, object recognition, and scene recognition algorithms.

Artificial intelligence training data construction (secondary) business | *Python, Pytorch* **Sep. 2020 - Dec. 2020**

- Developed **Action Recognition** network and successfully applied it to CCTV, which is a real environment.
- Proposed and developed an **active learning** method that efficiently selects training images using deep learning and applied to CCTV.(**A Lightweight Sampler for Efficient Action Recognition via Self-supervised Learning in surveillance system**)

Research service on the preparation method of reproduction data | *Python, Pytorch, Pandas***Jan. 2021 - Nob. 2021**

- Research service on the preparation method of reproduction data of data provided by the National Statistical Office

Development of deep learning-based image context extraction technology | *Python, Pytorch* **Jan. 2021 - Nob. 2021**

- Reduces the time to produce learning data by humans, and secures meta-data automatic generation technology through image content analysis as necessary.

Technical Skills

Languages: Python, C
Frameworks: Pytorch, TensorRT, ROS2
Developer Tools: Vim, GitHub, Docker