Minseok Seo

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Education

Hanbat National University (Advisor: Prof. Dong-Geol Choi) Mar. 2020 – Feb 2022
MS in Department of Information and Communication Engineering *Daejeon, Republic of Korea*

Hanbat National University Mar. 2015 – Feb 2019
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 AAAI 2022 under review
Minseok Seo*, Donghyeon Cho*, Sangwoo Lee, Jongchan Park, Daehan Kim, Jaemin Lee, Jingi Ju Hyeoncheol Noh and Dong-Geol Choi*

Source Domain Subset Sampling for Semi-Supervised Domain Adaptation in Semantic Segmentation BMVC 2021 under review
Daehan Kim, **Minseok Seo***, Jinsun Park* and Dong-Geol Choi*

Exploiting Features with Split-and-Share Module arXiv 2021
*Jaemin Lee, **Minseok Seo**, Jongchan Park, and Dong-Geol Choi*

Head Pose-free Gaze Estimation Using Domain Adaptation ITE ELECTRONICS LETTERS 2021
*Byungtae Ahn, **Minseok Seo** and Dong-Geol Choi* *IF=1.316*

Sequential Feature Filtering Classifier IEEE Access 2021
Minseok Seo*, Jaemin Lee*, Jongchan Park, and Dong-Geol Choi* *IF=4.48*

OCR-based Inventory Management Algorithms Robust to Damaged Images ICRA 2021
Minseok Seo*, Daehan Kim*, Hyeyoon Kang, Donghyeon Cho, and Dong-Geol Choi* *ORAL*

Development of OCR-based Applications to Improve Inventory Management TEST(SCOPUS) 2019
***Minseok Seo**, Jaemin Lee, Soyeol Lee, and Dong-Geol Choi*

Domestic Publications(* indicates equal contribution)

Road semantic segmentation systems in outdoor environments for robot driving KINGPC 2021
*Jaemin Lee, **Minseok Seo**, Sangwoo Lee and Dong-Geol Choi*

Adversarial Shade Generation and Training Text Recognition Algorithm that is Robust Algorithm that is Robust to Text in Brightness KROS2021
***Minseok Seo**, Daehan Kim and Dong-Geol Choi*

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

Forest Fire Detection Algorithm Using Image Information KISPS 2019
***Minseok Seo** and Choong Ho Lee* *Best paper*

Honors and Awards

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

Achievement Award Hanbat National University 2020
Minseok Seo

Practical Problem Research Competition Hanbat National University 2020
*Team AirLab(**team leader**)* *3rd*

University Student Autonomous Driving Contest KASE 2019
SW leader *9th*

Capstone Design Competition Hanbat National University 2019
Minseok Seo* *3rd*

Big Data Analysis Competition Hanbat National University 2018
Minseok Seo *and Juhyeon Park* *4st*

Projects

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

- **2019** : The goal was to achieve more than 72% accuracy in the HMDB51 public benchmark data set, but achieved an accuracy of 83.46%, achieving state-of-the-art performance at that time. (**Sequential Feature Filtering Classifier**)
- **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 state-of-the-art.(**https://github.com/seominseok0429/Real-world-Anomaly-Detection-in-Surveillance-Videos-pytorch**)

Marine Object Recognition | *Python, Pytorch* **Apr. 2019 - Apr. 2020**

- **2019** :Basic research and code writing for **part segmentation**.
- **2020** : **Unsupervised Domain adaptation** for semantic segmentation to reduce the domain gap between virtual and real images.

Region Detection Image Processing SW for Autonomous Mission | *C, C++* **Oct. 2019 - Nov. 2019**

- FOV camera **calibration** technology applied using checker board.
- Outlier removal using random sample consensus (**RANSAC**) algorithm.
- Application of segmentation technology using **OPENCV**.

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**)

Academic Services

BMVC 2021 : reviewer

Technical Skills

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