Jayeon Yoo

Seoul, South Korea
jayeon.yoo@snu.ac.kr | Google Scholar | +82 10 8635 3011

Career Objective

I am passionate about deploying deep learning models in demanding real-world scenarios, distinct from conventional training environments. My specific interest lies in formulating effective strategies to adapt models when encountering challenges like variations in data distribution during testing, handling unlabeled data, or addressing the introduction of new tasks. Accordingly, my research focuses on Unsupervised Domain Adaptation, Test-Time Adaptation, and Open-set tasks.

Education

Seoul National University — Seoul, South Korea
Combined M.S./Ph.D. of Intelligence and Information — *Sep 2019-Present*
- Advisor: Prof. Nojun Kwak
- Visiting Scholar at Carnegie Mellon University — *Jan 2020-Jun 2020*

Pohang University of Science and Technology — Pohang, South Korea
Bachelor of Industrial Management Engineering (Industrial Engineering) — *Mar 2011-Aug 2016*

Hansung Science High School — Seoul, South Korea
Mar 2009-Feb 2011

Publications

Jayeon Yoo, Dongkwan Lee, Inseop Chung, Donghyun Kim, Nojun Kwak, **"What, How, and When Should Object Detectors Update"**, *under review for CVPR 2024.* [paper]

Joonhyun Jeong, Geondo Park, Jayeon Yoo, Hyungsik Jung, Heesu Kim, **"ProxyDet: Synthesizing Proxy Novel Classes via Classwise Mixup for Open Vocabulary Object Detection"**, *AAAI*, 2024. [paper]

JunHoo Lee, Jayeon Yoo, Nojun Kwak, **"SHOT: Suppressing the Hessian along the Optimization Trajectory for Gradient-Based Meta-Learningusing Offsets to Bounding Box"**, *NeurIPS*, 2023. [paper]

Jangho Kim, Jayeon Yoo, Yeji Song, Kiyoon Yoo, Nojun Kwak, **"Finding Efficient Pruned Network via Refined Gradients for Pruned Weights"**, *ACM Multimedia*, 2023. [paper]

Inseop Chung, Jayeon Yoo, Nojun Kwak, **"Exploiting Inter-pixel Correlations in Unsupervised Domain Adaptation for Semantic Segmentation"**, *WACV Workshop, 2023.* [paper]

Jayeon Yoo, Inseop Chung, Nojun Kwak, **"Unsupervised Domain Adaptation for One-stage Object Detector using Offsets to Bounding Box"**, *ECCV*, 2022. [paper]

Hyojin Park, Jayeon Yoo, Seohyeong Jeong, Ganesh Venkatesh, Nojun Kwak, **"Learning Dynamic Network Using a Reuse Gate Function in Semi-supervised Video Object Segmentation"**, *CVPR*, 2021. [paper]

Hyojin Park, Jayeon Yoo, Ganesh Venkatesh, Nojun Kwak, **"Adaptive Template and Transition Map for Real-Time Video Object Segmentation"**, *IEEE Access 9, 116914-116926*, 2021. [paper]

Hojun Lee, Donghwan Yun, Jayeon Yoo, Kiyoon Yoo, Yongchul Kim, Dongki Kim, Kookhwan Oh, Kwonwook Joo, Yonsu Kim, Nojun Kwak, Seungseok Han **"Deep Learning Model for Real-Time Prediction of Intradialytic Hypotension"**, *Clinical Journal of the American Society of Nephrology*, March 2021.

Work Experience

Naver CLOVA, Research Intern — *Dec 2022-May 2023*
- Developing a face detection model for a camera app and refactoring the code
- Conducting research on open-vocabulary object detection using the CLIP model
- Conducting research on test-time adaptation for object detection

Recobell, Data Scientist — *Sep 2016-Aug 2019*
- Analyzing e-commerce user behaviors and developing machine learning based recommendation algorithm
- Developing machine learning based anomaly detection algorithms for detecting abnormal users
- Optimizing advertisement exposure based on machine learning algorithms

Projects

AI-based 1:1 Compound Conversation Technology through Situation Awareness and User Understanding, KETI *Aug 2023– Nov 2023*

- Developing an image retrieval model for finding the most relevant images using both text and image queries

Development of an object detection model for real-world environments, SNUAI *Jan 2021–Nov 2021*

- Conducting research on unsupervised domain adaptation for object detection

Real-Time Prediction of Intradialytic Hypotension, Seoul National University Hospital *Jan 2020-Dec 2020*

- Developing a prediction model for tabular time series data

Patent

Cross Domain Object Detector using Offsets to Bounding Box, Korea Patent App, 10-2022-0035183
Jayeon Yoo, Inseop Chung, Nojun Kwak

Teaching Experience

Uncertainty Estimation and Anomaly Detection, Samsung Electronics, Teaching Assistants (6 hours) *Sep 2023*

Deep Learning for Object Detection, Samsung Electronics, Teaching Assistants (9 hours) *Jan 2022*

Invited Talk

Domain Adaptive Object Detection, RTM, Seoul *Nov 2022*

Skills

Languages: Korean (Native), English (Advanced)
Technical Skills: Python (Pytorch, Tensorflow, Numpy), C++, SQL, R, Arena