MYUNGSEO SONG

micmic123@snu.ac.kr ◇ Google Scholar ◇ Personal Website

RESEARCH INTERESTS

Machine learning and computer vision, focusing on generalization under distribution shifts and learning with minimal human supervision, with particular interest in vision-language models and multimodal learning for visual reasoning in 2D/3D and video domains.

EDUCATION

Seoul National University Mar 2018 - Feb 2026 (Expected)
B.S. in Computer Science and Engineering (GPA: 3.75/4.30) *Seoul, Korea*
* Includes three-year mandatory military service in South Korea.

PUBLICATIONS

(*Equal contribution is denoted by "*".*)

[1] **Myungseo Song**, Jin-Woo Park, Jong-Seok Lee, "Exploring the Camera Bias of Person Re-identification," *International Conference on Learning Representations (ICLR)*, 2025. (Spotlight paper, Accept. rate $< 5\%$)

[2] **Myungseo Song**, Jinyoung Choi, Bohyung Han, "A Training-Free Defense Framework for Robust Learned Image Compression," *arXiv Preprint*, 2024.

[3] *Seongyeon Park, ***Myungseo Song**, Bohyung Kim, Tae-Hyun Oh, "Unsupervised Pre-training for Data-Efficient Text-to-Speech on Low Resource Languages," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2023.

[4] ***Myungseo Song**, *Seongyeon Park, Bohyung Kim, Tae-Hyun Oh, "Speech De-warping: Unsupervised Pre-training for Data-Efficient Text-to-Speech on Low Resource Languages," *International Conference on Machine Learning (ICML) Workshop on Machine Learning for Audio Synthesis*, 2022. (Oral presentation)

[5] **Myungseo Song**, Jinyoung Choi, Bohyung Han, "Variable-Rate Deep Image Compression through Spatially-Adaptive Feature Transform," *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

WORK EXPERIENCE

Lead Machine Learning Researcher Nov 2023 - May 2025
mAy-I, Inc. *Seoul, Korea*

- Analyzed camera bias in person re-identification under domain shifts and unsupervised learning, revealing why feature normalization mitigates spurious correlations; **ICLR 2025 (Spotlight)**.
- Improved person re-identification performance by 29.2% mAP on private benchmarks, directly enhancing CCTV-based visitor analytics product.
- Built and curated large-scale weakly-labeled datasets (1M+ images over 10K identities) from diverse real-world CCTV environments, enabling extensive model training and evaluation.
- Promoted within one year to lead research team of five members, directing projects on object detection, multi-camera people tracking, and gender/age estimation.

Machine Learning Researcher Oct 2021 - Oct 2023
CNAI, Inc. *Seoul, Korea*

- Conducted research on label-efficient text-to-speech (TTS), proposing unsupervised pre-training and data augmentation approaches; **ICML 2022 Workshop (Oral) and ICASSP 2023**.
- Developed few-shot audio-driven talking face generation models and constructed large-scale, high-resolution audio-visual datasets of human speech through in-house studio and crowdsourcing.
- Constructed large-scale 3D food detection dataset using RGB-D sensor (Azure Kinect) and developed monocular 3D object detection model.

Research Intern Sep 2020 - Sep 2021
Computer Vision Lab at Seoul National University *Seoul, Korea*

- Advisor: Prof. Bohyung Han.
- Designed neural image compression framework conditioned on quality map, enabling task-aware compression without task-specific training; **ICCV 2021**.
- Analyzed robustness of neural image compression against adversarial attacks and proposed training-free defense method leveraging self-supervised nature of compression; arXiv preprint.

Research Intern Jul 2020 - Aug 2020
NCSOFT, Inc. *Seongnam, Korea*

- Conducted research on few-shot, unsupervised image-to-image translation models based on GANs.
- Constructed large-scale image datasets for model training and evaluation using web crawling.

Software Engineering Intern Jan 2020 - Feb 2020
Intellisys, Inc. *Seoul, Korea*

- Developed web crawling-based data collection pipeline and data management system.

OTHER PROJECTS

Undergraduate Research Opportunity Program (UROP) Mar 2020 - Jun 2020
Data Mining Lab at Seoul National University *Seoul, Korea*

- Advisor: Prof. U Kang.
- Conducted research on RNN-based sequential recommender system for E-commerce.

SCHOLARSHIPS

Youlchon AI Young Researcher, Youlchon Foundation & SNU AI Institute Aug 2025
Jung-Hun Scholarship, Jung-Hun Foundation Apr 2019

SKILLS

Programming Languages: Python, Java, C/C++
Deep Learning Frameworks: PyTorch, TensorFlow
Libraries & Tools: Numpy, Pandas, OpenCV, Open3D, Git, Docker
Languages: English (Fluent), Korean (Native)

ACADEMIC SERVICE

Reviewer

- Journal: TIP (2023)
- Conference: ICLR (2025), NeurIPS (2024-2025), WACV (2023)