MYUNGSEO SONG

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RESEARCH INTERESTS

Machine learning and computer vision for real-world, large-scale problems and applications, with focus on generalized models through unsupervised learning, multi-modal learning, and debiasing techniques. Also interested in generative models and their applications, such as image/video compression.

EDUCATION

Seoul National University Mar 2018 - Aug 2026 (Expected)
B.S. in Computer Science and Engineering (GPA: 3.75/4.30) *Seoul, Korea*
* Currently on leave of absence from my studies and will be resuming them.
* Includes 34-month mandatory military service in South Korea.

WORK EXPERIENCE

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

- Co-leading research team for multi-camera people tracking and age estimation.
- Focused on unsupervised person re-identification (ReID), improving performance of product ReID model by +29.2% mAP on in-house benchmarks.
- Analyzed camera bias of person ReID and investigated debiasing methods, which was published at ICLR 2025 (Spotlight).
- Worked as part of mandatory military service.

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

- Developed unsupervised pre-training method for label-efficient text-to-speech, leveraging large-scale unlabeled speech, which was published at ICML 2022 Workshop (Oral) and ICASSP 2023.
- Developed audio-driven talking face generation models and established data collection process for in-house studio.
- Worked as part of mandatory military service.

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

- Advisor: Prof. Bohyung Han.
- Proposed variable-rate learned image compression framework capable of task-aware compression, which was published at ICCV 2021.
- Explored robustness of learned image compression models against adversarial attacks and proposed simple, training-free defense method for image compression (preprinted).

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

- Developed unsupervised image-to-image translation models to automatically generate icon images for video games.

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

- Developed data pipeline system and QA platform for collecting data from web.

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 Prepreint*, 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.

OTHER PROJECTS

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

- Advisor: Prof. U Kang.
- Developed GRU-based multi-behavior recommender system.

SKILLS

Programming Languages: Python (proficient), Java, C/C++
Deep Learning Frameworks: PyTorch, Tensorflow
Libraries & Tools: Numpy, Pandas, OpenCV, Git, Docker

ACADEMIC SERVICE

Reviewer

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