

Youngtaek Oh

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Research Interest

My research centers on data-efficient and robust recognition systems that address limitations and biases in image and video data. I am currently focusing on enhancing vision-language models to improve compositional reasoning and multi-modal understanding for more robust and comprehensive recognition systems.

Keywords: Data-Efficient Learning, Vision-Language Models, Vision-Language Compositionality

Publications (*equally contributed authors; †corresponding authors)

Peer-Reviewed Conferences and Journals

- [C6] [Preserving Multi-Modal Capabilities of Pre-trained VLMs for Improving Vision-Linguistic Compositionality](#)
Youngtaek Oh, Jae Won Cho, Dong-Jin Kim, In So Kweon[†], Junmo Kim[†].
 In **EMNLP 2024**: Conference on Empirical Methods in Natural Language Processing.
 Oral presentation
- [J1] [Empirical study on using Adapters for debiased Visual Question Answering](#)
 Jae Won Cho, Dawit Mureja Argaw, **Youngtaek Oh**, Dong-Jin Kim, In So Kweon.
 In **CVIU 2023**: Computer Vision and Image Understanding (IF=4.3).
- [C5] [Self-Sufficient Framework for Continuous Sign Language Recognition](#)
 Youngjoon Jang, **Youngtaek Oh**, Jae Won Cho, Myungchul Kim, Dong-Jin Kim, In So Kweon, Joon Son Chung. In **ICASSP 2023**: International Conference on Acoustics, Speech and Signal Processing.
 Oral presentation, Top 3% Paper Recognition
- [C4] [Signing Outside the Studio: Benchmarking Background Robustness for Continuous Sign Language Recognition](#)
 Youngjoon Jang, **Youngtaek Oh**, Jae Won Cho, Dong-Jin Kim, Joon Son Chung, In So Kweon.
 In **BMVC 2022**: British Machine Vision Conference.
- [C3] [DASO: Distribution-Aware Semantics-Oriented Pseudo-Label for Imbalanced Semi-Supervised Learning](#)
Youngtaek Oh, Dong-Jin Kim, In So Kweon.
 In **CVPR 2022**: Conference on Computer Vision and Pattern Recognition.
 Finalist, Qualcomm Innovation Fellowship Korea, 2022
- [C2] [KSL-Guide: A Large-scale Korean Sign Language Dataset Including Interrogative Sentences for Guiding the Deaf and Hard-of-Hearing](#)
 Soomin Ham, Kibaek Park, Youngjoon Jang, **Youngtaek Oh**, Seokmin Yun, Sukwon Yoon, Chang Jo Kim, Han-Mu Park, In So Kweon.
 In **FG 2021**: IEEE International Conference on Automatic Face and Gesture Recognition.
- [C1] [SideGuide: A Large-scale Sidewalk Dataset for Guiding Impaired People](#)
 Kibaek Park*, **Youngtaek Oh***, Soomin Ham*, Kyungdon Joo*, Hyokyung Kim, Hyoyoung Kum, In So Kweon. In **IROS 2020**: International Conference on Intelligent Robots and Systems.

Workshop and Preprints

- [W2] [Exploring the Spectrum of Visio-Linguistic Compositionality and Recognition](#)
Youngtaek Oh, Pyunghwan Ahn, Jinhyung Kim, Gwangmo Song, Soonyoung Lee[†], In So Kweon[†], Junmo Kim[†]. In **CVPRW 2024**: ‘What is Next in Multimodal Foundation Models?’ (MMFM).
- [W1] [Technical Report: Retrieval-based Data Discovery and Fusion for Zero-shot Image Captioning](#)
Youngtaek Oh, Jae Won Cho, Dong-Jin Kim, In So Kweon[†], Junmo Kim[†].
 In **CVPRW 2023**: ‘New Frontiers for Zero-shot Image Captioning Evaluation’ (NICE).
 2nd place in Zero-Shot Image Captioning Challenge in NICE Workshop

Education

Korea Advanced Institute of Science and Technology (KAIST) Ph.D. in Electrical Engineering ◦ Co-Advisors: Prof. In So Kweon and Prof. Junmo Kim	Daejeon, South Korea Sep. 2021 – Present
M.S. in Electrical Engineering ◦ Advisor: Prof. In So Kweon	Mar. 2019 – Feb. 2021
Korea University B.S. in Electrical Engineering	Seoul, South Korea Mar. 2015 – Feb. 2019

Work Experience

Research Intern LG AI Research	Sep. 2023 – Feb. 2024 Seoul, South Korea
Graduated Researcher Korea Advanced Institute of Science and Technology (KAIST)	Mar. 2021 – Aug. 2021 Daejeon, South Korea

Honors and Awards

Top Reviewer, NeurIPS 2024	Nov. 2024
Top 3% Recognition Certificates, ICASSP 2023	June 2023
2nd in the 2023 NICE Challenge at the NICE Workshop, CVPR 2023 (\$5,000)	May 2023
Finalist, Qualcomm Innovation Fellowship Korea	Nov. 2022
Outstanding Reviewer, ECCV 2022	Oct. 2022
National Scholarship for Science and Engineering (<i>full tuition, merit-based</i>)	Mar. 2017 – Feb. 2019

Academic Services

Conference Reviewer

- Conference on Computer Vision and Pattern Recognition (**CVPR**): 2022 – 2025
- European Conference on Computer Vision (**ECCV**): 2022 (**Outstanding**), 2024
- International Conference on Computer Vision (**ICCV**): 2023
- Conference on Neural Information Processing Systems (**NeurIPS**): 2023, 2024 (**Top Reviewer**)
- International Conference on Learning Representations (**ICLR**): 2024, 2025
- Winter Conference on Applications of Computer Vision (**WACV**): 2024, 2025
- International Conference on Acoustics, Speech, and Signal Processing (**ICASSP**): 2024, 2025
- AAAI Conference on Artificial Intelligence (**AAAI**): 2025
- International Conference on Machine Learning (**ICML**): 2025

Journal Reviewer

- International Journal of Computer Vision (**IJCV**): 2023, 2024
- Transactions of Machine Learning Research (**TMLR**): 2025

Softwares

Open-Sourced PyTorch Implementations

- [S4] 📄 **fsc-clip**: Implementations of training CLIP models with hard negative captions.
- [S3] 📄 **v1_compo**: A unified evaluation toolkit for compositional reasoning and multi-modal tasks.
- [S2] 📄 **retriever**: An implementation of the second-place solution in the 2023 NICE Challenge.
- [S1] 📄 **daso**: A unified codebase for semi-supervised learning (SSL).