

Chanyoung Kim

Curriculum Vitae

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RESEARCH INTERESTS

Deep Learning, Computer Vision, Unsupervised Open-Vocabulary Image and Video Semantic Segmentation, Multi-modal Image Synthesis Including Medical Images, Audio-Visual Representation

EDUCATION

Yonsei University

2nd Year Ph.D. Student in Artificial Intelligence

Advisor : **Prof. Seong Jae Hwang**

Seoul, Republic of Korea

Sep. 2023 – Aug. 2028 (*Expected*)

Sejong University

B.S. in Intelligent Mechatronics Engineering

Seoul, Republic of Korea

Mar. 2017 – Feb. 2023

PUBLICATIONS (* Equal contribution)

- [1] **Chanyoung Kim***, W. Han*, D. Ju, S. J. Hwang, “**EAGLE: Eigen Aggregation Learning for Object-Centric Unsupervised Semantic Segmentation**”, *CVPR 2024* (**Highlight**, AR $\leq 2.8\%$) [PDF]
- [2] W. Han*, **Chanyoung Kim***, D. Ju, Y. Shim, S. J. Hwang, “**Advancing Text-Driven Chest X-Ray Generation with Policy-Based Reinforcement Learning**”, *MICCAI 2024* (**Early Accepted**, AR $\leq 11\%$) [PDF]
- [3] W. Roh, G. Chang, S. Moon, G. Nam, **Chanyoung Kim**, Y. Kim, J. Kim, S. Kim, “**ORA3D: Overlap Region Aware Multi-view 3D Object Detection**”, *BMVC 2022* [PDF]
- [4] S. H. Lee, G. Oh, W. Byeon, **Chanyoung Kim**, W. Ryoo, S. H. Yoon, H. Cho, J. Bae, J. Kim, S. Kim, “**Sound-Guided Semantic Video Generation**”, *ECCV 2022* [PDF]
- [5] S. H. Lee, W. Roh, W. Byeon, S. H. Yoon, **Chanyoung Kim**, J. Kim, S. Kim, “**Sound-Guided Semantic Image Manipulation**”, *CVPR 2022* [PDF]

PREPRINTS

- [6] S. H. Lee*, **Chanyoung Kim***, W. Byeon, S. H. Yoon, J. Kim, S. Kim, “**LISA: Localized Image Stylization with Audio via Implicit Neural Representation**”, *arXiv 2022* [PDF]

WORKSHOP PUBLICATIONS

- [7] **Chanyoung Kim***, W. Han*, D. Ju, S. J. Hwang, “**EAGLE: Eigen Aggregation Learning for Object-Centric Unsupervised Semantic Segmentation**”, *CVPRW 2024 - Causal and Object-Centric Representations for Robotics*
- [8] S. H. Lee, N. Lee, **Chanyoung Kim**, W. Ryoo, J. Kim, S. H. Yoon, S. Kim “**Audio-Guided Image Manipulation for Artistic Paintings**”, *NeurIPSW 2022 - ML for Creativity and Design*

RESEARCH EXPERIENCE

Medical Imaging & Computer Vision Lab @ Yonsei University

Mar. 2023 – Present

Advisor: **Prof. Seong Jae Hwang**

- Semantic Segmentation (*collaborating with Prof. Ming-Hsuan Yang @ Google DeepMind & UC Merced*)
- Multi-modal Image Synthesis

Computer Vision Lab @ Korea University

Feb. 2021 – Dec. 2022

Undergrad Research Intern

- Multi-modal Representation Learning (*collaborated with Dr. Wonmin Byeon @ NVIDIA Research*)
- 3D Computer Vision with Event Camera (*collaborated with Dr. Giljoo Nam @ Meta Reality Lab*)

ACADEMIC SERVICE

Conference Reviewer

- *European Conference on Computer Vision (ECCV) 2024*
- *IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR) 2024*
- *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2023, 2025*

SKILLS

Programming

- Fluent in Python, Deep Learning Frameworks (Pytorch, Pytorch Lightning, TensorFlow), Python Libraries (Diffusers, Hugging Face, MMCV, Scikit-Learn, etc), Shell Script, Git, L^AT_EX
- Have foundation for C, Photoshop

Languages

- Native speaker in Korean
- Fluent in English (*2 years at Mckinley School, Pasadena, CA, United States (2006 – 2008)*)

TEACHING EXPERIENCE

Yonsei University

Sep. 2023 – Present

- Teaching Assistant: “Deep Learning Introduction and Applications” (Spring 2024)
- Teaching Assistant: “Computer Vision”, (Fall 2023)

Elice - Samsung Electronics

Aug. 2023

- Lecturer: Data Analysis and AI Course for Samsung Electronics Executives and Employees

Elice - LOTTE Corporation

Apr. 2023

- Teaching Assistant: Python Course for LOTTE Group Executives and Employees

LG CNS - Korea University

Jul. 2021, Mar. 2022

- Teaching Assistant: Anomaly Detection Course for LG CNS Executives and Employees

PROJECT EXPERIENCES

Detecting TMJ MRI Abnormalities Using TMJ Tomographic Imaging

Sep. 2023 – Present

- Won the **Best Oral Presentation Award** at The American Academy of Orofacial Pain Conference 2024
- Funded by *National Research Foundation of Korea (NRF)* and *Yonsei University*

Personal Privacy Free Autonomous Flight Drone Platform with Event Camera

Jul. 2021 – Feb. 2022

- Funded by *National Research Foundation of Korea (NRF)* and *George Washington University*

Ultra-Light Weight Image Classification Model for Edge Computing Systems

Feb. 2021 – Jun. 2021

- Developed light weight food image classification model for oven.
- Funded by *GE Appliances*

AWARDS & HONORS

LAB Start-up 2022

1st / 12 teams Feb. 2022

Korea University π -ville Demo Day 2021

2nd / 13 teams Sep. 2021

Sejong Scholarship for Outstanding GPA

3rd / 142 people Sep. 2021

Seoul PM Hackathon

5th / 62 teams Jun. 2019

XXIII Pyeongchang Olympic Winter Games

Medal of Contribution Feb. 2018

REFERENCES

Seong Jae Hwang (*PhD Advisor*)

Assistant Professor at Yonsei University, Seoul, S.Korea

Ming-Hsuan Yang

Research Scientist & Professor at Google DeepMind and UC Merced

Wonmin Byeon

Research Scientist at NVIDIA Research, Santa Clara, CA