# Chanyoung Kim

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## RESEARCH INTERESTS

#### **Visual Foundation Models**

- Aligning vision-language models for generalizable visual understanding (CVPR 2025)
- Unsupervised spectral learning of image representations (CVPR 2024, 2025)
- Task-specific adaptation of foundation model features (CVPR 2024, 2025)

### Generative Models

- Controllable text-to-image synthesis (CVPR 2025; MICCAI 2024, 2025)
- Audio-visual representation-guided image generation (CVPR 2022; ECCV 2022)

### **EDUCATION**

M.S. & Ph.D. in Artificial Intelligence, Yonsei University, Seoul, Korea 2023–2028 Advisor: Prof. Seong Jae Hwang

- Collaborating with Prof. Ming-Hsuan Yang (UC Merced & Google DeepMind)
- Collaborating with Dr. Roberto Alcover-Couso (Amazon)

**B.S.** in Intelligent Mechatronics Eng., Sejong University, Seoul, Korea 2017–2023

## RESEARCH EXPERIENCE

# Medical Imaging & Computer Vision Lab, Yonsei University Graduate Research Assistant

2023-Present

# Computer Vision Lab, Korea University

Undergraduate Research Intern

2021 - 2022

Collaborated with Dr. Wonmin Byeon (NVIDIA Research)

# CONFERENCE PUBLICATIONS

**Chanyoung Kim**, Dayun Ju, Woojung Han, Ming-Hsuan Yang, Seong Jae Hwang, "Distilling Spectral Graph for Object-Context Aware Open-Vocabulary Semantic Segmentation", *CVPR* 2025 [PDF]

Chanyoung Kim\*, Dayun Ju\*, Jinyeong Kim, Woojung Han, Roberto Alcover-Couso, Seong Jae Hwang, "Pathology-Aware Adaptive Watermarking for Text-Driven Medical Image Synthesis", MICCAI 2025 (Early Acceptance, AR  $\leq$  9%) [PDF]

Chanyoung Kim\*, Woojung Han\*, Dayun Ju, Seong Jae Hwang, "EAGLE: Eigen Aggregation Learning for Object-Centric Unsupervised Semantic Segmentation", CVPR 2024 (Highlight, AR  $\leq 2.8\%$ ) [PDF] (Short version at CVPRW 2024 - Causal and Object-Centric Representations for Robotics)

Woojung Han\*, Chanyoung Kim\*, Dayun Ju, Yumin Shim, Seong Jae Hwang, "Advancing Text-Driven Chest X-Ray Generation with Policy-Based Reinforcement Learning", MICCAI 2024 (Spotlight, AR  $\leq 3.4\%$ ) [PDF]

Woojung Han, Yeonkyeong Lee, **Chanyoung Kim**, Seong Jae Hwang, "Spatial Transport Optimization by Repositioning Attention Map for Training-Free Text-to-Image Synthesis", **CVPR** 2025 [PDF] (Short version at **CVPRW** 2025 - Generative Models for Computer Vision)

Wonseok Roh, Gyusam Chang, Seokha Moon, Giljoo Nam, **Chanyoung Kim**, Younghyun Kim, Jinkyu Kim, Sangpil Kim, "ORA3D: Overlap Region Aware Multi-view 3D Object Detection", **BMVC** 2022 [PDF]

Seung Hyun Lee, Gyeongrok Oh, Wonmin Byeon, **Chanyoung Kim**, Wonjeong Ryoo, Sang Ho Yoon, Hyunjun Cho, Jihyun Bae, Jinkyu Kim, Sangpil Kim, "Sound-Guided Semantic Video Generation", *ECCV* 2022 [PDF]

Seung Hyun Lee, Wonseok Roh, Wonmin Byeon, Sang Ho Yoon, **Chanyoung Kim**, Jinkyu Kim, Sangpil Kim, "Sound-Guided Semantic Image Manipulation", *CVPR* 2022 [PDF]

#### Preprints

Seung Hyun Lee\*, **Chanyoung Kim\***, Wonmin Byeon, Sang Ho Yoon, Jinkyu Kim, Sangpil Kim, "LISA: Localized Image Stylization with Audio via Implicit Neural Representation", arXiv Preprint [PDF]

Donghyun Kim, Hyunah Ko, **Chanyoung Kim**, Seong Jae Hwang, "Fourier Decomposition for Explicit Representation of 3D Point Cloud Attributes", arXiv Preprint [PDF]

## Workshop Publications

Seung Hyun Lee, Nahyuk Lee, **Chanyoung Kim**, Wonjeong Ryoo, Jinkyu Kim, Sang Ho Yoon, S. Kim, "Audio-Guided Image Manipulation for Artistic Paintings", **NeurIPSW** 2022 - ML for Creativity and Design

## ACADEMIC SERVICE

# Conference (Workshop) Organizing Committee

MICCAI Student Board - Local Student Liaison Officer

• Organizing workshops, webinars, and conference events for MICCAI 2025

### Conference Reviewer

CVPR 2024, 2025 ICCV 2025 NeurIPS 2025 ECCV 2024 WACV 2023, 2025

# Honors and Awards

Excellent Academic Paper Award (Fall 2024) Yonsei University LAB Start-up 2022 Korea University Korea University  $\pi$ -ville Demo Day 2021 Korea University Sejong Scholarship for Outstanding GPA Sejong University Seoul PM Hackathon Seoul Metropolitan City XXIII Pyeongchang Olympic Winter Games Republic of Korea Government

## TEACHING EXPERIENCES

### Yonsei University

- TA: "Deep Learning Introduction and Applications" (Spring 2024, 2025)
- TA: "Computer Vision" (Fall 2023)

### Samsung Electronics

• Lecturer: "Introductions to Data Science" (Aug. 2023)

### SKILLS

# Programming

• Python, Deep Learning Frameworks (Pytorch, Pytorch Lightning, TensorFlow), Python Libraries (Diffusers, Hugging Face, MMCV, Scikit-Learn, etc.), Shell Script, Git, LATEX

### Languages

- Fluent in English (2 years at McKinley School, Pasadena, CA (2006 2008))
- Native speaker in Korean

### References

Prof. Seong Jae Hwang (PhD Advisor), Associate Professor, Yonsei University

**Prof. Ming-Hsuan Yang**, Professor & Research Scientist, UC Merced & Google DeepMind

Dr. Wonmin Byeon, Research Scientist, NVIDIA Research

Dr. Roberto Alcover-Couso, Applied Scientist, Amazon