Chanyoung Kim

Curriculum Vitae

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RESEARCH INTERESTS

Machine learning, Deep learning, Computer vision
Unsupervised Semantic Segmentation, Multi-modal Image Synthesis, Audio-Visual Representation

EDUCATION

Yonsei University — Seoul, Republic of Korea
M.S./Ph.D. *Student in Artificial Intelligence* — *Sep. 2023 – Aug. 2028 (Expected Graduation)*
Advisor : Prof. Seong Jae Hwang

Sejong University — Seoul, Republic of Korea
B.S. *in Intelligent Mechatronics Engineering* — *Mar. 2017 – Feb. 2023*
(2 years of absence for mandatory military service)

PUBLICATIONS *(* Equal contribution)*

[1] 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* (**Early Accepted**, AR: 11%) [PDF]

[2] **Chanyoung Kim***, Woojung Han*, Dayun Ju, Seong Jae Hwang, "EAGLE: Eigen Aggregation Learning for Object-Centric Unsupervised Semantic Segmentation", ***CVPR*** *2024* (**Highlight**, AR: 2.8%) [PDF]

[3] 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]

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

[5] 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

[6] 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 2022* [PDF]

WORKSHOP PUBLICATIONS

[7] **Chanyoung Kim***, Woojung Han*, Dayun Ju, Seong Jae Hwang, "EAGLE: Eigen Aggregation Learning for Object-Centric Unsupervised Semantic Segmentation", ***CVPRW*** *2024 - Causal and Object-Centric Representations for Robotics*

[8] Seung Hyun Lee, Nahyuk Lee, **Chanyoung Kim**, Wonjung Ryoo, Jinkyu Kim, Sang Ho Yoon, Sangpil 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
- Multi-modal Image Synthesis

Computer Vision Lab @ Korea University — Feb. 2021 – Dec. 2022
Undergrad Research Intern
- Multi-modal Representation Learning *(joint research with Dr. Wonmin Byeon @ **NVIDIA Research**)*
- 3D Computer Vision with Event Camera *(joint research 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*

Skills

Programming
- Fluent in Python, Deep Learning Frameworks (Pytorch, Pytorch Lightning, TensorFlow), Python Libraries (Diffusers, Hugging Face, Scikit-Learn, etc), Shell Script, Git, LaTeX
- 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
- 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

Personal Privacy Free Autonomous Flight Drone Platform with Event Vision   Jul. 2021 – Feb.2022
- Funded by *National Research Foundation of Korea (NRF)* and *George Washington University*

Real-time Object Detection for Embedded Systems on Drones   Sep. 2021 – Dec. 2021
- Proposed a light-weight object detector for drone vision.

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 Place***	Feb. 2022
Korea University π-ville Demo Day 2021	***2nd Place***	Sep. 2021
Sejong Scholarship for Outstanding GPA	***3rd Place***	Sep. 2021
2020 International Robot Contest	***5th Place***	Nov. 2020
Seoul PM Hackathon	***5th Place***	Jun. 2019
XXIII Pyeongchang Olympic Winter Games	***Medal of Contribution***	Feb. 2018