Chanyoung Kim

Curriculum Vitae

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RESEARCH INTERESTS

Machine learning, Deep learning, Computer vision
Semantic Segmentation, Multi-modal representation learning

EDUCATION

Yonsei University   Seoul, Republic of Korea
M.S. in Artificial Intelligence   *Sep. 2023 – Present*
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] W.Han*, **C.Kim***, D.Ju, Y.Shim, S.J.Hwang, "Advancing Text-Driven Chest X-Ray Generation with Policy-Based Reinforcement Learning", *Medical Image Computing and Computer Assisted Intervention (MICCAI) 2024* **(Early Accepted, top 11% of submissions)** [PDF]

[2] **C.Kim***, W.Han*, D.Ju, S.J.Hwang, "EAGLE: Eigen Aggregation Learning for Object-Centric Unsupervised Semantic Segmentation", *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2024* **(Hightlights, top 2.8% of submissions)** [PDF]

[3] W.Roh, G.Chang, S.Moon, G.Nam, **C.Kim**, Y.Kim, S.Kim, J.Kim, "ORA3D: Overlap Region Aware Multi-view 3D Object Detection", *The British Machine Vision Conference (BMVC), 2022* [PDF]

[4] S.H.Lee, G.Oh, W.Byeon, **C.Kim**, W.J.Ryoo, H.Choi, S.H.Yoon, J.Bae, J.Kim, S.Kim, "Sound-Guided Semantic Video Generation", *European Conference on Computer Vision (ECCV) 2022* [PDF]

[5] S.H.Lee, W.Roh, W.Byeon, S.H.Yoon, **C.Kim**, J.Kim, S.Kim, "Sound-Guided Semantic Image Manipulation", *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022* [PDF]

WORKSHOP PUBLICATIONS

[6] **C.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*

[7] S.H.Lee, N.Lee, **C.Kim**, W.Ryoo, J.Kim, S.Yoon, S.Kim "Audio-Guided Image Manipulation for Artistic Paintings", *NeurIPSW 2022 - Machine Learning for Creativity and Design*

PREPRINTS

[8] S.H.Lee*, **C.Kim***, W.Byeon, S.H.Yoon, J.Kim, S.Kim, "LISA: Localized Image Stylization with Audio via Implicit Neural Representation", *arXiv 2022* [PDF]

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
Advisors: Prof. Jinkyu Kim and Prof. Sangpil Kim

- 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*

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 a Haier company

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

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))*