Subin Kim

Homepage: https://subin-kim-cv.github.io
GitHub: https://github.com/subin-kim-cv
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Research Interests

The long-term goal of my research is to enhance the practicality of computer vision systems so that they can be widely used in real-world scenarios. To this end, I focus on (i) how to design architecture efficiently in terms of computation and memory by reflecting the character of each data signal and (ii) how to apply computer vision systems newly and variously in real-world applications.

Currently, my research interest lies in *representing complex data signals efficiently* by utilizing coordinate-based neural representations and mainly working on a dynamic 3D video synthesis.

Keywords: Implicit neural representation, Neural rendering, Generative modeling

Education

M.S. in Artificial Intelligence — Mar. 2022 - Present
Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea
Advisor: Prof. Jinwoo Shin

B.S. in Electrical Engineering — Mar. 2017 - Feb. 2022
Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea
Magna Cum Laude (GPA: 3.93/4.3)

Publications

* denotes equal contribution

Conferences

[1] Scalable Neural Video Representations with Learnable Positional Feature
Subin Kim*, Sihyun Yu*, Jaeho Lee, Jinwoo Shin
Conference on Neural Information Processing Systems (NeurIPS) 2022

Work Experience

External Collaborator — Oct. 2022 - Present
Adobe, San jose, USA (remote)
with Joon-young Lee

External Collaborator — Mar. 2022 - Present
POSTECH, Pohang, Korea (remote)
with Prof. Jaeho Lee

AI Research Intern — Aug. 2021 - Feb. 2022
Upstage, Yongin, Korea (remote)
with Sungrae Park

Undergraduate Research Intern — Feb. 2021 - Feb. 2022
KAIST, Daejeon, Korea
with Prof. Jinwoo Shin

Winter Internship — Jan. 2020 - Feb. 2020
Samsung Electro-Mechanics, Suwon, Korea

Honors

Travel Award, NeurIPS 2022

First Place, Creative Space G A.I & IoT Hackathon

INVITED TALKS

"Scalable Neural Video Representations with Learnable Positional Features" Nov. 2022
NeurIPS 2022 at KAIST

"Scalable Neural Video Representations with Learnable Positional Features" Nov. 2022
Samsung Advanced Institute of Technology (Remote)

"Scalable Neural Video Representations with Learnable Positional Features" Jun. 2022
Rokit Healthcare (Seoul, Korea)

PROJECTS

Emotion-based Video-conferencing Application for Enhanced Interactions Mar. 2020 - Jun. 2020

- Developed EVA, an emotion-based video conferencing application designed to make the video conference more enjoyable and interactive; utilized deep learning-based techniques to enable EVA: (i) detect the faces of the participants and (ii) recognize their real-time emotions.
- One can apply 3D face masks on the faces shown in applications and interact with other users using the emoji features based on the detected emotions of each of them.
- Also, EVA analyzes the facial expressions of all participants in order to give the presenter an indication of how the audience is feeling, as well as to find participants who are sleeping.

REFERENCE

Prof. Jinwoo Shin, Graduate School of AI & School of Electrical Engineering, KAIST
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Prof. Jaeho Lee, Department of Electrical Engineering & Graduate School of AI, POSTECH
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