

# Subin Kim

Homepage: <https://subin-kim-cv.github.io>

GitHub: <https://github.com/subin-kim-cv>

Email: [subin-kim@kaist.ac.kr](mailto:subin-kim@kaist.ac.kr)

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RESEARCH INTERESTS	<p>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.</p> <p>Currently, my research interest lies in <i>representing complex data signals efficiently</i> by utilizing coordinate-based neural representations and mainly working on a dynamic 3D video synthesis.</p> <p><b>Keywords:</b> Implicit neural representation, Neural rendering, Generative modeling</p>
EDUCATION	<div><div><b>M.S. in Artificial Intelligence</b> Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea Advisor: Prof. Jinwoo Shin</div><div>Mar. 2022 - Present</div></div> <div><div><b>B.S. in Electrical Engineering</b> Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea <i>Magna Cum Laude</i> (GPA: 3.93/4.3)</div><div>Mar. 2017 - Feb. 2022</div></div>
PUBLICATIONS	<p>* denotes equal contribution</p> <p><b>Conferences</b></p> <p>[1] Scalable Neural Video Representations with Learnable Positional Feature <b>Subin Kim*</b>, Sihyun Yu*, Jaeho Lee, Jinwoo Shin <i>Conference on Neural Information Processing Systems (NeurIPS) 2022</i></p>
WORK EXPERIENCE	<div><div><b>External Collaborator</b> Adobe, San Jose, USA (remote) with Joon-young Lee</div><div>Oct. 2022 - Present</div></div> <div><div><b>External Collaborator</b> POSTECH, Pohang, Korea (remote) with Prof. Jaeho Lee</div><div>Mar. 2022 - Present</div></div> <div><div><b>AI Research Intern</b> Upstage, Yongin, Korea (remote) with Sungrae Park</div><div>Aug. 2021 - Feb. 2022</div></div> <div><div><b>Undergraduate Research Intern</b> KAIST, Daejeon, Korea with Prof. Jinwoo Shin</div><div>Feb. 2021 - Feb. 2022</div></div> <div><div><b>Winter Internship</b> Samsung Electro-Mechanics, Suwon, Korea</div><div>Jan. 2020 - Feb. 2020</div></div>
HONORS	<p><b>Travel Award</b>, NeurIPS 2022</p> <p><b>First Place</b>, Creative Space G A.I &amp; IoT Hackathon</p> <p><b>Yangyoung Foundation Scholarship</b>, Samyang Group 2019 - 2020</p>

INVITED TALKS	“Scalable Neural Video Representations with Learnable Positional Features” <i>NeurIPS 2022 at KAIST</i>	Nov. 2022
	“Scalable Neural Video Representations with Learnable Positional Features” <i>Samsung Advanced Institute of Technology (Remote)</i>	Nov. 2022
	“Scalable Neural Video Representations with Learnable Positional Features” <i>Rokit Healthcare (Seoul, Korea)</i>	Jun. 2022
PROJECTS	<b>Emotion-based Video-conferencing Application for Enhanced Interactions</b> Mar. 2020 - Jun. 2020 <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>	
MENTORING	Jioh Kim, B.S. at Yonsei University	Oct. 2022 - Present
	Woomin Song, M.S. at KAIST	Sep. 2022 - Present
REFERENCE	<b>Prof. Jinwoo Shin</b> , Graduate School of AI & School of Electrical Engineering, KAIST Contact: <a href="mailto:jinwoos@kaist.ac.kr">jinwoos@kaist.ac.kr</a>  <b>Prof. Jaeho Lee</b> , Department of Electrical Engineering & Graduate School of AI, POSTECH Contact: <a href="mailto:jaeho.lee@postech.ac.kr">jaeho.lee@postech.ac.kr</a>	