

JUNYOUNG SEO

junyoung.seo@kaist.ac.kr, Homepage, LinkedIn

RESEARCH INTEREST

Generative Models, 3D/Video Representations, Visual Correspondence

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST) Sep. 2024 - Present
Integrated M.S./Ph.D. in Artificial Intelligence *Seoul, Korea*

Korea University Mar. 2022 - Aug. 2024 (Incompleted)
Integrated M.S./Ph.D. in Computer Science and Engineering *Seoul, Korea*
Transferred to KAIST with supervisor

Korea University Mar. 2016 - Feb. 2022
B.S. in Electrical Engineering *Seoul, Korea*

EXPERIENCE

SonyAI, Sony Research Mar. 2024 - May 2024
Research Intern *Remote*

SonyAI, Sony Research Dec. 2023 - Feb. 2024
Research Intern *Tokyo, Japan*
Project: Generative Models for 3D Scene

Queen Mary University of London Jun. 2023 - Aug. 2023
Visiting Researcher *London, UK*
Work with Dr. Changjae Oh

CVLAB, Korea University Jan. 2021 - Feb. 2022
Research Intern *Seoul, Korea*
Supervised by Prof. Seungryong Kim

PUBLICATION

International Conference / Journal

Junyoung Seo, Kazumi Fukuda, Takashi Shibuya, Takuya Narihira, Naoki Murata, Shoukang Hu, Chieh-Hsin Lai, Seungryong Kim, Yuki Mitsufuji, “**GenWarp: Single Image to Novel Views with Semantic-Preserving Generative Warping**”, *Neural Information Processing Systems (NeurIPS)*, 2024.

Internship at Sony AI. [Project Page]

Junyoung Seo, Susung Hong, Wooseok Jang, Min-Seop Kwak, Hyeonsu Kim, Doyup Lee, Seungryong Kim, “**Retrieval-augmented Score Distillation for Text-to-3D Generation**”, *International Conference on Machine Learning (ICML)*, 2024.

Collaborated with Runway. [Project Page]

Junyoung Seo*, Wooseok Jang*, Min-Seop Kwak*, Jaehoon Ko, Hyeonsu Kim, Junho Kim, Jin-Hwa Kim, Jiyoung Lee, Seungryong Kim, “**Let 2D Diffusion Model Know 3D-Consistency for Robust**

Text-to-3D Generation”, *International Conference on Learning Representations (ICLR)*, 2024.
Collaborated with NAVER AI Lab. [Project Page]

Gyeongnyeon Kim*, Wooseok Jang*, Gyuseong Lee*, Susung Hong, **Junyoung Seo**, Seungryong Kim, “DAG: Depth-Aware Guidance with Denoising Diffusion Probabilistic Models”, *Pattern Recognition (PR)*, 2024.

Junyoung Seo*, Gyuseong Lee*, Seokju Cho, Jiyoung Lee, Seungryong Kim, “MIDMs: Matching Interleaved Diffusion Models for Exemplar-based Image Translation”, *AAAI Conference on Artificial Intelligence (AAAI)*, 2023.
Collaborated with NAVER AI Lab. [Project Page]

Jiwon Kim*, Yeongjo Min*, Daehwan Kim*, Gyuseong Lee, **Junyoung Seo**, Kwangrok Ryou, Seungryong Kim, “ConMatch: Semi-Supervised Learning with Confidence-Guided Consistency Regularization”, *European Conference on Computer Vision (ECCV)*, 2022.

Jiwon Kim*, Kwangrok Ryou*, **Junyoung Seo***, Gyuseong Lee*, Daehwan Kim, Hansang Cho, Seungryong Kim, “Semi-Supervised Learning of Semantic Correspondence with Pseudo-Labels”, *IEEE Conf. Computer Vision Pattern Recognition (CVPR)*, 2022.

Pre-print

Susung Hong, **Junyoung Seo**, Sunghwan Hong, Heeseong Shin, Seungryong Kim, “Large Language Models are Frame-level Directors for Zero-shot Text-to-Video Generation”, *arXiv*, 2023.

Kihong Kim*, Yunho Kim*, Seokju Cho, **Junyoung Seo**, Jisu Nam, Kychul Lee, Seungryong Kim, Kwang Hee Lee, “DiffFace: Diffusion-based Face Swapping with Facial Guidance”, *arXiv*, 2022. [Project Page]

ACADEMIC SERVICES

Reviewer

- Computer Vision and Pattern Recognition (CVPR)
- Conference on Neural Information Processing Systems (NeurIPS)
- International Conference on Learning Representations (ICLR)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

HONORS

Korea University, Korea Jan. 2022
Award for Academic Excellence, 2st Semester, 2021

Korea University, Korea Jul. 2021
Award for Academic Excellence, 1st Semester, 2021

Korea Electric Power Corporation, Korea Mar. 2021
KEPCO Scholarship

Incorporated Association GreenLight and HYUNDAI AutoEver, Korea Feb. 2021
3rd Prize, Barrier-free App Development Contest

HYUNDAI MOBIS, Korea <i>Special Award in Self-driving RC Car Development, Korea Embedded Software Contest</i>	Jan. 2021
Korea University, Korea <i>Award for Academic Excellence, 2st Semester, 2020</i>	Jul. 2021
Korea University, Korea <i>Professor's Association Seokrimhoe Scholarship</i>	Sep. 2020
Korea University, Korea <i>Award for Academic Excellence, 1st Semester, 2020</i>	Jul. 2020
SK, Korea <i>Grand Prize in App Development, SK Smarteen App Challenge</i>	Dec. 2013

PROJECTS

Samsung Electro-Mechanics <i>Automation of Deep Learning Model Update using Unlabeled Data</i>	2021-2022
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MILLITARY OBLIGATION

Republc of Korea Air Force	Feb. 2018 - Jan. 2020
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