Namhyuk **Ahn**

Assistant Professor at Inha University

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Research Interest

My research goal is to develop powerful generative AI (Gen AI) solutions applicable across various domains, creating a strong Gen AI+X framework. I am currently focused on creating specialized methodologies to adapt large-scale foundational Gen AI models in fields such as media, art, healthcare, manufacturing, and logistics, although my scope is not limited to these areas. I am also interested in exploring the societal implications of Gen AIs and developing ways to mitigate potential negative impacts that may arise from the development of Gen AI.

Work Experience

Inha University — *Incheon, Korea*

Assistant Professor — *Sep. 2024 - Present*

- School of Electrical and Electronics Engineering
- Department of Electrical and Computer Engineering (Graduate School)

NAVER WEBTOON — *Pangyo, Korea*

AI Researcher — *Aug. 2021 - Aug. 2024*

- Built user-centric AI tools designed for cartoon creators/artists (e.g. Cartooner, DreamStyler)
- Researched user privacy-aware Gen AI (e.g. Impasto, which prevents copyright violation by Gen AI models)
- Developed portrait stylization production (e.g. WebtoonMe)

NAVER AI LAB — *Bundang, Korea*

Visiting Researcher — *Sep. 2019 - Oct. 2020*

- Researched data augmentation for image super-resolution (e.g. CutBlur)
- Developed label-efficient conditional generative models
- Co-worked with Jaejun Yoo, Youngjung Uh and Yunjey Choi

NAVER — *Bundang, Korea*

Intern — *June 2018 - Aug. 2018*

- Developed image-to-image translation pipeline for talking head project

Education

Ajou University — *Suwon, Korea*

Ph.D. in Artificial Intelligence — *Mar. 2016 - Aug. 2021*

- Advisor: Prof. Kyung-Ah Sohn
- Thesis: Toward an Efficient Deep Image Restoration Method

Ajou University — *Suwon, Korea*

Bachelor of Media in Digital Media — *Mar. 2012 - Aug. 2016*

Selected Publication

- **Namhyuk Ahn**, Wonhyuk Ahn, KiYoon Yoo, Daesik Kim, Seung-Hun Nam. Imperceptible Protection Against Style Imitation from Diffusion Models. *preprint* arXiv:2403.19254
- **Namhyuk Ahn**, Jaejun Yoo, Kyung-Ah Sohn. Data Augmentation for Low-Level Vision: CutBlur and Mixture-of-Augmentation. **IJCV 2024**
- **Namhyuk Ahn**, Junsoo Lee, Chunggi Lee. Kunhee Kim, Daesik Kim, Seung-Hun Nam, Kibeom Hong. DreamStyler: Paint by Style Inversion with Text-to-Image Diffusion Models. **AAAI 2024**
- Kibeom Hong, Seogkyu Jeon, Junsoo Lee, **Namhyuk Ahn**, Kunhee Kim, Pilhyeon Lee, Daesik Kim, Youngjung Uh, Hyeran Byun. AesPA-Net: Aesthetic Pattern-Aware Style Transfer Networks. **ICCV 2023**
- **Namhyuk Ahn**, Patrick Kwon, Jihye Back, Kibeom Hong, Seungkwon Kim. Interactive Cartoonization with Controllable Perceptual Factors. **CVPR 2023**
- **Namhyuk Ahn**, Byungkon Kang, Kyung-Ah Sohn. Efficient Deep Neural Network for Photo-realistic Image Super-Resolution. **Pattern Recognition 2022**
- Jaejun Yoo*, **Namhyuk Ahn***, Kyung-Ah Sohn. Rethinking Data Augmentation for Image Super-resolution: A Comprehensive Analysis and a New Strategy. **CVPR 2020**

- **Namhyuk Ahn**, Byungkon Kang, Kyung-Ah Sohn. Fast, Accurate, and Lightweight Super-Resolution with Cascading Residual Network. **ECCV** 2018

Professional Service

Reviewer CVPR (2023-), ICCV (2023), ECCV (2024), NeurIPS (2024), ICLR (2025)
TPAMI, IJCV, TIP, TMM, TCSVT, SPIC, ESWA

Editor Mathematical Biosciences and Engineering (2022-2023; Guest)

Teaching

2024-2 Computer Graphics, Creative Design for ICE

2017 Deep Learning and its Applications (at FastCampus)

Invited Talk

2024.5 Ajou University, ”Career path advise for undergraduate students”

2023.3 Ajou University, ”Recent advances in visual generative models”