

BYUNGJOO CHAE

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EDUCATION

M.S. Electronic Engineering (Advisor: Donghyeon Cho) Chungnam National University, Daejeon, Republic of Korea	Mar 2022 - Feb 2024
B.S Electronic Engineering Chungnam National University, Daejeon, Republic of Korea	Mar 2016 - Feb 2022

WORK EXPERIENCE

Machine Learning Engineer, Dexter Studios	Mar 2024 - Jan 2025
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- **De-aging Pipeline for East Asian VFX Productions**

- Curated and labeled an East Asian face dataset to fine-tune the age estimation module of a de-aging model, originally trained on Western data, improving accuracy for East Asian actors in VFX.
- Developed and deployed a **frame-consistent video de-aging pipeline, used in commercial VFX production workflows.**
- Fine-tuned InstructPix2Pix using a curated de-aging dataset, achieving **90% faster inference time** for internal testing and experimentation.

Researcher, Chungnam National University	Mar 2022 - Feb 2024
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- **Patch-based Painterly Harmonization for High Resolution Images**

- Built **10,000+ high-resolution images** for painterly harmonization using Ultra Style Transfer models.
- Developed a patch-based harmonization method that combined local and global features, leading to a **+0.3 PSNR and 10 MSE improvement** over the base model.

- **Deep Real: Synthetic Data Generation and Model Fine-Tuning**

- Designed and implemented an integrated pipeline using Unreal Engine to automatically generate synthetic harmonization datasets, including composite images, masks, and ground truth from raw assets.
- **Built a training dataset of 26,157 synthetic images** and fine-tuned the HRNet-IDIH model for improved harmonization performance.
- Evaluated the fine-tuned model on 1,000 images, **achieving a 5-point increase in PSNR** compared to the base model

PERSONAL PROJECTS

Light Weight Ultra Style transfer Model	Dec 2023 - Feb 2024
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- Developed a lightweight backbone using the ConvMixer module and integrated a Triple Modulator to enhance feature extraction from the Style Encoder.
- Achieved a **30% reduction in parameters and GFLOPs** compared to MicroAST while maintaining performance, improving computational efficiency for deployment.

PUBLICATION

- Online Learning for Reference-Based Super-Resolution, **Byungjoo Chae***, Jinsun Park*, Tae-Hyun Kim and Donghyeon Cho, *MDPI Electronics*, 2022.
- Learning Lightweight Low-Light Enhancement Network using Pseudo Well-Exposed Images, Seonggwon Ko*, Jinsun Park*, **Byungjoo Chae** and Donghyeon Cho, *IEEE Signal Processing Letter (SPL)*, 2021

TECHNICAL SKILLS

- Advanced: Python, Pytorch, Intermediate: Docker, Github, Beginner: FastAPI, httpx