



JUNYOUNG KOH Deep Learning Engineer | AI Researcher

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Summary |

- **Generative AI & Multimodal Research:** Researched generative AI and multimodal learning, developing Stable Diffusion-based models and personalized LoRA. Built prompt pipelines and optimized image generation.
- **Full-stack AI Development:** Managed full pipeline from data collection to model training and publication. Bridged research and deployment with cross-functional expertise.
- **Language Skill :** English(Fluent), Korean(Native), Japanese(Intermediate)

Career Path

● Onoma AI, Seoul, South Korea

2024.01 ~ 2025.02 AI Team Lead

2023.09 ~ 2023.12 AI Team, Image Part Lead

2023.07 ~ 2023.08 AI Team, Image Part Researcher

[Key Responsibilities]

Developed SDXL-based generative illustration foundation model.

Built and augmented 20M+ illustration image dataset.

Planned CES 2024 & 2025 AI award-winning AI models.

Developed LoRA adapter models for unstructured image domains.

Designed prompt pipelines for robust text-image alignment.

Built automated character/story generation tools using GPT-4.

Led publications and workshops based on research outcomes.

[Achievements]

Illustrious: SDXL-based illustration generator; released via HuggingFace, TensorArt, with MOUs. Collected 20M+ illustrations from Common Crawl; public model releases.

TooToon Emporium: Character model marketplace with LoRA + VSA Tagger. Built AWS/SageMaker/Docker pipeline; partnered with 20+ companies incl. LG U+, Kenaz. Created 40+ character LoRA models used in webtoon/Instagram.

TooToon Artifex: Line art generator with ControlNet/inpainting (ComfyUI/WebUI); Used by 50+ artists for webtoon production.

TooToon Fabulator: LLM-based tool for auto synopsis/treatment/character sheets. Integrated chracter sheet → LoRA training pipeline.

Paper / Project

● Yonsei University, Seoul

2023.09 ~ 2024.06 CAT : Contrastive Adapter Training for Personalized Image Generation (CVPR Workshop)

- Proposed Contrastive Adapter Training (CAT) to address object diversity loss and prior knowledge collapse in LoRA-based diffusion models
- Designed CAT loss to preserve base model knowledge during adapter application
- Introduced Knowledge Preservation Score (KPS) for performance evaluation

● 2024.06 ~ 2024.07 Improving Text Generation on Images with Synthetic Captions (IIAI-AAI 2024)

- Proposed a lightweight fine-tuning strategy to address blurry or inaccurate text generation in SDXL-based text-to-image models
- Applied a cost-efficient training method using refined datasets and synthetic captions, without relying on large multimodal encoders
- Improved text rendering accuracy through data augmentation with randomized character inclusion

● 2024.08 ~ 2025.02 Illustrious: an Open Advanced Illustration Model (Technical Report)

- Developed Illustrious, a text-to-image model specialized in animation-style image generation
- Proposed strategies to enhance high-resolution generation quality through large-batch training, high-res finetuning, and multi-level caption refinement
- Achieved SOTA performance in the illustration domain with plans for continued improvement and open-source customization

● (Ongoing) Adaptive Dropout Strategies for Image Generation

- Applied adaptive dropout to trigger tokens to enable effective target image generation while preserving prior model knowledge

● (Ongoing) Multi-Pitch Estimation Model Based on Synthetic Polyphonic Vocal Data

- Developed a multi-pitch estimation model trained on synthetic polyphonic vocal datasets

Education

Yonsei University, South Korea

Integrated Master's and Ph.D. Student in Artificial Intelligence  
2023.03 ~ Current

University of Southern California, USA

AI/Machine Learning Summer Session  
2025.07 ~ 2025.08

Soongsil University, South Korea

Bachelor of Engineering in Global Media  
2017.03 ~ 2023.02

Seoul High School, South Korea

2013.03 ~ 2016.02

Skills

AI/ML : PyTorch, Tensorflow, LoRA, Diffusion

Vision : OpenCV, Inpainting, Classifier (ViT)

NLP : Prompt Engineering, CogVLM, Gemini, GPT

ETC. : Gradio, Selenium, imgutils, LaTeX

DevOps : Docker, FastAPI, Runpod, Kafka

Awards

CES 2024 Innovation Award in AI Category

CES 2025 Innovation Award in AI Category