Jin-Hyeong Park, MS

Machine Learning Engineer at AI Research Institute, Neowiz | Gyeonggi-do, South Korea
Email: jhpark.4745@gmail.com | Webpage | LinkedIn

Research Interests

Learning-based Inverse Rendering, Neural Scene Representations, Controllable 3D Reconstruction and Editing

EDUCATION

Chung-Ang University (CAU), Seoul, Korea Mar 2018 - Feb 2020
M.S. in Computer Science and Engineering *(Focus: Neural Architecture Search)*

- Advisor: Jaesung Lee | GPA 3.82/4.0
- Thesis: Effective Front-end Architecture Search for Random Weight Network on Edge Device

Korea National University of Transportation (KNUT), Gyeonggi-do, South Korea Mar 2014 - Feb 2018
B.S. in Computer Science and Information Engineering

- Advisor: Sungwook Lee | GPA 3.65/4.0

PROFESSIONAL EXPERIENCE

AI Research Institute, **Neowiz | Head: Sung-Gyu Oh** (until 2024) Nov 2020 - Present
Machine Learning Engineer

- Contributed to the development of the AI portion of an Apple's 2023 Mac Game of the Year Nominated AAA game title (Lies of P)
- Built and deployed diffusion-based image generation workflows and geometry-processing pipelines used across seven game projects.

Machine Intelligence Lab, **Chung-Ang University (CAU) | PI: Dr. Jaesung Lee**
Graduate Research Assistant Mar 2018 - Aug 2020
Research Intern Jul 2017 - Feb 2018

PUBLICATIONS AND PRESENTATIONS

In Preparation:

Intrinsic-Space Shading Transfer for Lighting-Consistent Inpainting
Jin-Hyeong Park
(In preparation for submission to) Eurographics 2026 (Poster)

Image Generation for Style- and IP-Consistent Game Art: Design and Longitudinal Deployment of a Context-Aware I2I Pipeline
Hajun Kim, ***Jin-Hyeong Park***
(In preparation for submission to) DIS 2026: ACM Designing Interactive Systems

Published / Presented:

Multi-label Naïve Bayes Classifier Considering Label Dependence
Hae Cheon Kim, ***Jin-Hyeong Park****, Dae Won Kim, Jaesung Lee*
Pattern Recognition Letters, 2020

Multi Population Memetic Search for Effective Multi-label Feature Selection
Jin-Hyeong Park*, Jaesung Lee*
International Conference on Platform Technology and Service, 2019 (Oral presentation)

Compact Feature Subset Based Multi-label Music Categorization for Mobile Devices
Jaesung Lee, Wangduk Seo, ***Jin-Hyeong Park****, Dae Won Kim*

Multimedia Tools and Applications, 2018

Evolutionary Algorithm Design for Effective Multi-label Feature Selection
Jin-Hyeong Park*, Jaesung Lee*
Spring Conference of SEBS & KISM, 2018

Relevant Research & Industry Experience

Enhanced Game Image Generation AI Service Development and Feature Integration Jan 2024 - Present
Neowiz, South Korea
Keyword: Image processing, Generative Models, Game Art Generation, Human-Computer Interaction

- Developed Stable Diffusion-based features for concept art generation, style transfer, and background variation, enhancing the game artwork production workflow.

Automated Hair Guide Model Generation for Game Characters from 3D Reconstruction Apr 2024 - Nov 2024
Neowiz, South Korea
Keyword: 3D Content Generation, Geometry Processing, Inverse Rendering

- Designed a hair guide model generation pipeline to optimize the creation of game hair models, utilizing Geometry Processing techniques including clustering, importance sampling, and resampling.
- Developed a post-processing procedure that parametrically differentiates guide hair using results from existing Inverse Rendering research.

Preliminary Research on Motion In-Betweening for 3D Character Animation Sep 2023 - Dec 2023
Neowiz, South Korea
Keyword: 3D Animation Interpolation, Neural Network-based Prediction, Unreal Engine

- Explored real-time intermediate motion generation using neural networks and implemented a prototype in Unreal Engine for AAA game titles.

Development of Facial Animation Pipeline for Lip Sync and Emotion based on Voice and Script [video] Aug 2022 - Oct 2022
Neowiz, South Korea
Keyword: Signal Processing, Multivariate Prediction, Sentiment Analysis

- Designed and implemented an automated pipeline for facial animations in cartoon-style games, utilizing script-based sentiment analysis and speech-to-viseme models to automate facial expression generation

Neural Audio Filter for Transforming Monster Voices into Machinery Sounds [video] Jun 2021 - Oct 2022
Neowiz, South Korea
Keyword: Neural Representation, Signal Processing, GAN-based Style Transfer

- Conducted GAN-based domain transfer to convert monster voices into mechanical sounds; applied in the AAA game Lies of P (Apple's 2023 Mac Game of the Year).

Development of Computer-based Three-Dimensional Medical Image Analysis Program for the Objective Assessment of Orbital Disease Sep 2018 - Oct 2019
National Research Foundation of Korea
Keyword: Computer Vision, **3D CNNs**

- Conducted 3D volumetric data classification using 3D convolutional neural networks, achieving high accuracy in multi-class prediction tasks.

Ray Tracing Implementation 2024
Personal Project

- Built a basic ray tracing engine implementing shading, reflection, and camera control, following the "Ray Tracing in One Weekend" series.

DirectX 11 Graphics Projects 2024

Personal Project

- Implemented physically-based rendering, compute shaders, particle animations, and geometry processing using DirectX 11.

SKILLS

Languages: Python・C++・CUDA・Javascript・LaTeX
Framework/Tools: PyTorch・DirectX 11・Vue
Software: Blender・COLMAP・Unreal Engine・ComfyUI・Git・MATLAB

AWARDS AND HONORS

Funding & Scholarships

Research Assistantship (A), CAU Mar 2018 - Mar 2020

- Full Tuition Scholarship

National Science & Technology Excellence Undergraduate Scholarship, KSF Sep 2016 - Jun 2017

- Full Tuition Scholarship

Academic Excellence Scholarship, KNUT

- Half Tuition Scholarship Mar 2016 - Jun 2016
- Half Tuition Scholarship Sep 2014 - Dec 2014

Awards

- **Bronze Medal,** CommonLit Readability Prize, *Kaggle* (Top 10%) 2021
- **Silver Medal,** Ion Switching Prediction, *Kaggle* (Top 4%) 2020

TEACHING EXPERIENCE

Teaching Mentor for Undergraduate Interns, CAU Sep 2018 - Mar 2020

- Mentored experimental design and academic paper composition

Teaching Assistant, CAU

Artificial Intelligence Class Mar 2019 - May 2019
Numerical Analysis Class Sep 2018 - Oct 2018
Discrete Mathematics Class Mar 2018 - May 2018

MEMBERSHIP

- **Association for Computing Machinery (ACM)**: Professional Member (2024–)
- **BrainKorea(BK)21 Four**: Graduate Research Program Member (2018–).

EXTRA EXPERIENCE

- Lab Manager for 2 years (2018-2019), managed primary lab operations and coordinating research activities at the Machine Intelligence Lab, CAU