

Jin (Hyeong) Park

Research Engineer at Neowiz | M.S at CAU | Seoul, Republic of Korea

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SUMMARY

Jin Park is an AI researcher in the Game industry, passionate about making a strong impression on people through Computer Graphics and Machine Learning. His strengths include Data-driven Animation and Applied ML/DL Solution. He has demonstrated results in the growing Game Development industry in South Korea, having worked on one of the first AAA game titles entirely developed in South Korea.

Research Interests: Computer Graphics, Rendering, Physical simulation, Machine learning,

EDUCATION

Chung-Ang University (CAU), Seoul, Korea

Mar 2018 - Mar 2020

M.S. in Computer Science and Engineering (Specialization: Machine Learning)

- Advisors: [Jaesung Lee](#)
- Thesis: Effective Front-end Architecture Search for Random Weight Network on Edge Device
- Thesis Committee: Dae-Won Kim, Sangoh Park, Muchul Kim
- GPA 3.82/4.0
- Honors: Research Assistant Scholarship for 4 Semesters

Korea National University of Transportation (KNUT), Gyeonggi-do, Korea

Mar 2014 - Mar 2018

B.S. in Computer Science and Information Engineering

- Advisor: Sungwook Lee
- GPA 3.67/4.0
- Honors: National Science & Technology Excellence Undergraduate Scholarship for 2 Semesters • Academic Excellence Scholarship for 3 semesters

PROFESSIONAL EXPERIENCE

AI Research Institute, Neowiz

Dec 2020 - Present

Research Engineer (Mandatory Military Service)

- Military Service as Technical Research Personnel in South Korea
- Led the development of the AI portion of a 2023 Game of the Year Nominated AAA game title (Lies of P)
- Researched and introduced a semantic search system for the efficient retrieval of AAA game resources, specifically SFX, Graphic resource
- Implemented deep learning in the Game content QC(difficulty prediction) process, leading to a 30% reduction in operational costs (DJMAX)

Machine Intelligence Lab, Chung-Ang University (CAU)

Mar 2018 - Aug 2020

Research Assistant

- Led the conducting and mentoring of experimental design and academic paper writing for new M.S student and B.S interns

RESEARCH PROJECT

Preliminary Research on Motion In-Betweening for 3D Character Animation

Sep 2023 - Present

Neowiz

Keyword: 3D Animation, Conditional Motion Generation, Deep Learning, Data-driven Approach

- Explored the feasibility of real-time generation of intermediate motions for in game animation in new AAA game titles
- Implemented a prototype about related works in the Unreal Engine and conducted performance evaluations for real-time functionality

Quality Control in Rhythm Games through Automated Difficulty Level Evaluation

Jan 2023 - Present

Neowiz

Keyword: Deep Learning, Regression Analysis, Active Learning, Content Design Support Tool

- Researched the automation of difficulty level evaluation for new contents in rhythm games (DJMAX) using deep learning
- The automation model achieved a 30% reduction in time costs for the QC process

Semantic Search System Development for Effective Game Resource Retrieval

Nov 2022 - Dec 2023

Neowiz

Keyword: General-Purpose Representation, Vector Search, Elasticsearch, 3D Assets, SFX

- Researched a semantic search system based on similarity using general-purpose audio representations generated via SSL
- Implemented an Iterative Search mechanism to refine searches according to user intent, achieving more accurate semantic results
- Demonstrated significant search performance improvements on a database of over 300K SFX files, enhancing resource retrieval efficiency

Development of Facial Animation Pipeline for Lip Sync and Emotion based on Script Analysis

Aug 2022 - Oct 2022

Neowiz

Keyword: Facial Animation, Sentiment Analysis, Deep Learning, Production Design Support Tool (Blender)

- Developed an automated pipeline for facial animations in cartoon-style games
- Constructed the pipeline utilizing a Script-based Sentiment Analysis Model and Speech2Viseme Model to automate the creation of facial animations

Neural Audio Filter for Transforming Monster Voices into Machinery Sounds

Jun 2021 - Oct 2022

Neowiz

Keyword: Digital Signal Processing, Audio Style Transfer, GANs, Audio Super-Resolution

- Conducted research on style domain transfer to convert monster voice into machinery sounds while retaining the original nuances
- The output of this research was utilized as SFX in a AAA games (Lies of P), which won the Game of the Year awards at the 2023 Apple App Store Awards and NYX Game Awards

Korean Music Reproducing System based on Cultural Aesthetics

Mar 2019 - Mar 2020

Ministry of Science and ICT, Korea (NRF-2019R1C1C1008404)

Keyword: Digital Signal Processing, Audio Style Transfer, GANs

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 (NRF-2017R1D1A1A09082089)

Keyword: Computer Vision, 3D Deep Learning

- Explored the classification of thyroid orbitopathy in medical CT images using 3D Convolution-base Neural Networks
- Achieved a performance of 97% on binary classification tasks and 92% on multi-classes classification tasks, as measured by the ROC curve

Post-human era, Build HAI(Humanities with Artificial-Intelligence) for enhancing the humanity value

Jun 2018 - Aug 2020

Ministry of Education, Korea (NRF-2017S1A6A3A01078538)

Keyword: Natural Language Processing, Ancient Literature Data, Statistical Analysis

- Analyzed Korean classical literature and built a Korean humanities corpus using NLP and statistical techniques
- Applied preprocessing and machine learning techniques to large amounts of text data

Inter-cultural Korean Music Discovery based on Pluralistic Music Emotion

Mar 2018 - Aug 2018

Ministry of Future Creation and Science, Korea (NRF-2016R1C1B1014774)

Keyword: Digital Signal Processing, Neural Network, Music Recommendation System

PUBLICATIONS AND PRESENTATIONS

Published in SCI(E) Journals:

Multi-label Naïve Bayes Classifier Considering Label Dependence

Hae Cheon Kim, **Jin-Hyeong Park**, Dae Won Kim, Jaesung Lee

Pattern Recognition Letters, Vol. 136(1), pp. 279-285, 1 August 2020

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, Vol. 78, pp. 4869-4883, 11 May 2018

International Conference Papers:

Multi Population Memetic Search for Effective Multi-label Feature Selection

Jin-Hyeong Park, Jaesung Lee

Platform Technology and Service, Jeju, Korea, 28-30 January 2019

Domestic Journal Papers (written Korean):

Evolutionary Algorithm Design for Effective Multi-label Feature Selection

Jin-Hyeong Park, Jaesung Lee

Spring Conference of SEBS & KISM, 1(1):241-242, Seoul. Korea, 27-28 April 2018

AWARDS AND HONORS

Scholarship

Research Assistant Scholarship (A), CAU

Mar 2018 - Mar 2020

- Awarded for four consecutive semesters
- Acknowledgment code: CAU-RAA-2018

National Science & Technology Excellence Undergraduate Scholarship, KSF

Sep 2016 - Jun 2017

- Awarded for two consecutive semesters
- Full Tuition Scholarship

Academic Excellence Scholarship, KNUT	Sep 2014 - Nov 2015
<ul style="list-style-type: none"> • Awarded for three consecutive semesters • Full Tuition Scholarship 	

Awards

Bronze Medal in Featured Code Competition - CommonLit Readability Prize, Kaggle	2021
CommonLit, Inc.	

- Text data Readability Level prediction challenge in Kaggle
- Top 10%, [\[link\]](#)

Silver Medal in Research Prediction Competition - Ion Switching, Kaggle	2020
University of Liverpool	

- Time series biological data prediction challenge in Kaggle
- Top 4%, [\[link\]](#)

Excellence Award in Software Competition, KNUT	2017
KNUT Computer Science & Information Engineering Academic Festival	

- Developed a Speech Recognition-based smart mirror system utilizing National Public Data

Gold Award in Transportation • Convergence • General Challenge, KNUT	2016
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- Developed an efficient train seat monitoring App about Korea Railroad Corporation

TEACHING EXPERIENCE

Teaching Mentor for Undergraduate Interns, CAU	Sep 2018 - Mar 2020
<ul style="list-style-type: none"> • Mentoring sessions about Experimental design and Academic paper composition 	

Teaching Assistant, CAU	Mar 2019 - May 2019
Artificial Intelligence Class	
<ul style="list-style-type: none"> • Responsible for preparing course materials 	

Teaching Assistant, CAU	Sep 2018 - Oct 2018
Numerical Analysis Class	
<ul style="list-style-type: none"> • Responsible for preparing course materials • Tasked with creating and grading weekly exam 	

Teaching Assistant, CAU	Mar 2018 - May 2018
Discrete Mathematics Class	
<ul style="list-style-type: none"> • Tasked with creating and grading weekly exam • Leading Q&A Sessions 	

LANGUAGE

- English: Proficient or Advanced (TOEFL iBT: 100) (Planned)
- Korean (Native)

SKILLS

Qualitative Methodologies

Ethnographic Research • User Interview • Content Analysis • Case Study • Iterative Design and Feedback Loops • Collaboration and Communication

Quantitative Methodologies

Experiment Design • Statistical Analysis • Modeling • Data Processing

Programming

Languages: Python • C++ • LaTeX • Javascript

Framework: PyTorch • DirectX • OpenGL • Vue.js

Software: Blender • Unreal Engine • Unity

LICENSE

- Engineer Information Processing (Human Resources Development Service of Korea)

MEMBERSHIP

BrainKorea(BK)21 Four (Associate membership in the Institute for Innovation and Coexistence Education Research, supported by the Ministry of Education and the National Research Foundation of Korea)

EXTRA EXPERIENCE

- Military Service as Technical Research Personnel in South Korea, Dec 2020 - Dec, 2023
- Computer Graphics Certificate (Planned)
- English Conversation Certificate (Planned)
- Class Representative 3rd, 4th grade in Computer Science Department