Junmin Park

Master's student at KAIST · KIXLAB

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RESEARCH INTERESTS

Visual Computing for Space Design. Spatial computing and behavior-driven visualization systems using AI and real-time graphics.

Human-Computer Interaction. Adaptive systems that use human-centered data to generate spatial interfaces and enable adaptive architectural systems.

Computer Graphics in Spatial Representation. GPU-accelerated rendering pipelines and browser-based spatial graphics engines.

EDUCATION

KAIST - Master's program

Sep 2026 - Present

Department of AI Computing · KIXLAB

Seoul National University - Bachelor of Architecture

Mar 2018 - Feb 2024

- GPA: 3.64 / 4.3. KAAB-accredited 5-year professional degree program (KAAB-202307).
- Final year project: AI-assisted spatial computing systems adapting to user interaction, using GPT-based agents and 3D model generation.

PROFESSIONAL EXPERIENCE

Archisketch - R&D Lead

Apr 2025 - Jul 2026 · Graphics Engineer to R&D Lead

- Developed multi-agent Auto Layout and Auto Camera pipelines; implemented optimization algorithms for 3D model compression and content streaming.
- Promoted to R&D Lead in Nov 2025, overseeing the AI Interior Design Agent as project lead and PM.
- Shipped the AI Interior Design Agent to paid subscription users. The end-to-end workflow covered floor plan analysis, 3D conversion, style recommendation, furniture layout, rendering, and cost estimation through natural language input.
- Represented Archisketch at MWC and Amazon Unicorn Day, leading product demonstrations and promotional activities.
- Presented an Amazon Unicorn Day (AWS Startups) session on automating interior design and cost estimation with natural language, demonstrating an end-to-end agentic workflow built on Amazon Bedrock AgentCore.

PROFESSIONAL EXPERIENCE / CONTINUED

Ersatz - 3D Content Engineer

Mar 2021 - Jan 2025

- Built browser-based 3D interaction tools for real-time architectural simulations.
- Designed procedural content generation pipelines using Python and WebGL; researched AI-driven modeling and prompt-to-geometry conversion.

Lee Kyeong Jae Architecture Projects - 3D Intern

May 2020 - Nov 2020

Assisted with architectural visualization and environmental animation, using Rhino, SketchUp, and Unity for exhibition-oriented content.

SELECTED PROJECTS

Simple Garments - Real-Time Spatial Feedback System

Independent project · Dec 2024 - Mar 2025

Designed a prototype using Stable-Fast-3D model generation and GPT-based agents to reconfigure digital architectural spaces. Explored computational visualization of interaction with spatial boundaries; reviewed spatial cognition, interactive design, and adaptive environments.

AI-driven Virtual Architecture for K-ARTS Digital Showcase

Nov 2024

Co-led the proposal and AI system design for a virtual exhibit. Developed a multi-agent prompt system for evolving spatial narratives, and engineered content with Python and Stream Diffusion (real-time streaming for Stable Diffusion).

3D Animation for Flattened - Solo Exhibition by Jakyung Shin

Feb 2024

Created a concept-driven animation using "tilt & drag" as a spatial metaphor. Reconstructed and animated sculptural forms in Blender to emphasize perspective distortion and embodied tension; choreographed camera and object motion to reinforce narrative rhythm and spatial dynamics.

Web3D Development Service - Project Seoul

Mar 2023 - Jan 2025

Engineered browser-based architectural viewers with PlayCanvas (a JavaScript web game engine) and GLSL. Built pipelines using Draco compression, hardware instancing, and automatic polygon reduction; managed the full-stack architecture for interactive design assets.

SNU 2023 Graduation Exhibition

Jul 2023

Led prompt engineering for spatial storytelling through AI image synthesis. Developed a 3D exhibition interface powered by WebGL and GPT API integration.

SNU 2022 Architecture Showcase

Nov 2022

Built the general layout system for the graduation exhibition and supported interactive layout scripts using cables.gl and custom shaders.

TEACHING & LEADERSHIP

CBAS Architon - Session Speaker & Tutor

Mar 2026

Delivered a technical session on AI-driven spatial design systems and guided participants through agentic architecture workflows.

SNU Architecture Visualization (Grasshopper) Workshop - Mentor

Jun 2020 - Dec 2022

Led beginner sessions on 3D graphics and visual programming with Grasshopper, guiding participants in building interactive architectural models.

SNU Architecture Visualization Club - Founder & Lead

Jun 2018 - Dec 2019

Founded a weekly study group on architectural visualization and parametric design. Initiated peer-led presentations and discussions at the campus library.

SCHOLARSHIPS & AWARDS

Fulbright Graduate Study Program - Principal Candidate

Sep 2025 - Present

Selected as a Principal Candidate in recognition of academic excellence and research potential in Visual Computing and HCI.

SNU "Flow" Public Art Project - Outstanding Prize

Sep 2022 - Oct 2022

Led spatial concept development and interactive installation planning.

Seoul National University - Academic Excellence Scholarship

Aug 2018

Awarded for significant academic performance.

MEDIA & PRESS

The SNU News

Sep 2023

Featured in 서울대, ChatGPT와 상생하려면. Discussed the integration of AI in architectural visualization and its impact on design education.

TECHNICAL SKILLS

Programming: Python, JavaScript, GLSL. JavaScript ecosystem: React, React Native, Node.js, Three.js.

Frameworks & tools: Three.js Fiber, PlayCanvas, Blender API. Expert: Rhino, Blender, Grasshopper. Basic: Unity, SketchUp, 3ds Max, Unreal Engine.

Additional: Familiar with C#, WebAssembly workflows, RESTful API integration, and Git.

TEST SCORES

TOEFL: 109 total · Reading 29 · Speaking 26 · Writing 24 · Listening 30

GRE: Verbal 155 · Quantitative 167 · Analytical Writing 3.5