

Brian Wonjun Lee

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EDUCATION:

University of Pennsylvania

Philadelphia, PA | Sept 2021 - May 2027 (Leave on 2022-2024)

- **Study:** Benjamin Franklin Scholars Program, Computer Science & Design (Double Major)
- **Coursework:** Programming Languages and Techniques I, Mathematical Foundations of Computer Science, Introduction to Algorithms, Introduction to Computer Systems, Interactive Computer Graphics, Principles of Physics I, Calculus, Part III, UX and UI Design, 3D Computer Modeling, Interactive Concepts for Art & Design, Computer Animation.

EXPERIENCE:

BitMango (Puzzle1Studio), Software Engineer Intern

Pangyo, South Korea | May 2025 – Aug 2025

- Maintained **50+ Unity-based mobile game titles**, improving UI/UX and core gameplay stability across live deployments
- **Upgraded SDKs and platform modules** to ensure compliance with evolving app store requirements and sustain overall production availability.
- **Resolved 100+ QA report bugs** by modifying Unity prefabs and C# scripts, improving gameplay stability across live releases

Penn Spark, Red Project Lead, Product Designer

Philadelphia, PA | Jan 2025 - Current

- Project Led cross-functional teams of **15+ designers and developers** to ship client-facing digital **0 → 1 products**
- Defined end-to-end user flows, interaction patterns, and scalable interface systems for multiple project deliverables
- Collaborated cross-functionally to ship polished, user-centered features across 1+ semester-long projects

IT-Farm, Database Engineer Intern

Seongnam, South Korea | Jun 2022 - Aug 2022

- Designed and implemented a SQL-based database prototype **managing 1M+ data entities using Oracle and SQLite**
- Processed and organized semiconductor datasets from **20+ client companies**, including Samsung, SK, and LG
- Wrote and optimized SQL queries to improve data retrieval and management efficiency across large-scale datasets

Capital Defense Command, Military Police, Military Interpreter

Seoul, South Korea | Dec 2022 - June 2024

- Provided real-time English Korean interpretation in high-security, multi-agency environments for international stakeholders
- Translated sensitive documents and briefings with precision, enabling coordination across government and defense teams

PROJECTS:

Mini Minecraft, C++, OpenGL, GLSL (Team Project)

April 2026

- Generated **7-biome procedural terrain** using layered **Perlin/FBM/Voronoi noise** with smoothstep biome blending
- Implemented **3D Perlin cave systems** with trilinear interpolation, **fluid physics**, and **post-process tint overlays**
- Built render pipeline with **7x7 PCF shadow mapping**, **screen-space reflections**, **vertex AO**, and dynamic **day-night cycle**

Mini Maya, C++, OpenGL, GLSL (Individual Project)

Feb 2026 - Mar 2026

- Implemented **half-edge mesh data structure** enabling efficient traversal and topology-aware mesh operations
- Built an OpenGL-based rendering pipeline using **VBOs and GLSL shaders** for real-time visualization of polygonal meshes
- Developed mesh editing operations including **edge split**, **face triangulation**, **extrusion**, and **Catmull–Clark subdivision**

Capsule, React Three Fiber, MongoDB, AWS S3 (Team Project)

Jan 2025 – Apr 2025

- Developed a collaborative web app for creating interactive 3D time capsules with **media storage** and **timed unlocking**
- Built immersive **3D interfaces** using React Three Fiber for real-time rendering and user interaction
- Implemented **backend data management** with MongoDB and **scalable media storage** using AWS S3

SKILLS & INTERESTS

- **Language:** Python, Java, C++, C#, OCaml, JavaScript, HTML, CSS, SQL, Typescript
- **Frameworks:** Node.js, Next.js, React Three Fiber, Tailwind CSS, JUnit
- **Tools:** Unity, Unreal, OpenGL, GLSL, GitLab, Blender, Maya, Figma, Photoshop, Illustrator, After Effects, Substance Painter, Premiere Pro, SQLite, VS Code, IntelliJ