

Brian Wonjun Lee

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EDUCATION

University of Pennsylvania

BA in Computer Science & Design (Double Major), Benjamin Franklin Scholars

Philadelphia, PA

Expected May 2027

Relevant Coursework: Interactive Computer Graphics, Computer Animation, 3-D Computer Modeling, Introduction to Algorithms, Introduction to Computer Systems, Programming Languages & Techniques

EXPERIENCE

Software Engineer Intern, Aleph Lab (Y Combinator)

June 2026 – Present · San Francisco (Remote)

- Built and shipped to production a recency-segmented push-notification retention engine (Supabase triggers, Deno edge functions, FCM) at a 4-engineer YC startup, with a treatment/holdout A/B instrumented to measure return-rate lift
- Caught a win-back targeting flaw by validating against production data — repointing from child-role to cross-account activity for a ~2.7× gain in reachable users that multi-agent review had missed
- Architected a typed integration SDK placing a production game-AI agent behind 4 versioned contract seams (zod, JSON Schema, 136 tests), verified against the live system at full event parity
- Root-caused a production auth outage from a JWT signing-key migration and shipped the fix, restoring the guarded notification pipeline (401 → 200)

Software Engineer Intern, BitMango (Puzzle1 Studio)

June 2025 – Aug 2025 · Pangyo, South Korea

- Maintained a live portfolio of 50+ Unity mobile game titles, improving UI/UX and core gameplay stability across deployments
- Resolved 100+ QA-reported bugs by modifying Unity prefabs and C# scripts, shipping fixes in production releases
- Upgraded SDKs and platform modules fleet-wide to meet evolving app-store requirements and sustain production availability

Project Lead & Product Designer, Penn Spark (Red Team)

Jan 2025 – Present · Philadelphia, PA

- Led a 15+-person cross-functional team of designers and developers to ship client-facing 0-to-1 products
- Defined end-to-end user flows, interaction patterns, and reusable interface systems across multiple deliverables
- Shipped polished, user-centered features across semester-long client project cycles

Military Interpreter, Capital Defense Command (ROK Army)

Dec 2022 – June 2024 · Seoul, South Korea

- 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

Database Engineer Intern, IT-Farm

June 2022 – Aug 2022 · Seongnam, South Korea

- Designed and implemented a SQL 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 retrieval and management efficiency across large-scale datasets

PROJECTS

[Mini Minecraft](#) | C++, OpenGL, GLSL

Apr 2026

- Engineered a voxel engine from scratch: 7 procedural biomes from layered Perlin/FBM/Voronoi noise with smoothstep blending
- Implemented 3D Perlin cave systems with trilinear interpolation, fluid physics, and post-process tint overlays
- Built the render pipeline: 7×7 PCF soft shadows, screen-space reflections, vertex AO, and a dynamic day-night cycle

[Capsule](#) | React, Three.js (R3F), MongoDB, AWS S3

Jan 2025 – Apr 2025

- Built a full-stack web app (team of 4) for creating interactive 3D time capsules with media storage and timed unlocking
- Engineered immersive 3D scenes with React Three Fiber for real-time rendering, animation, and direct-manipulation interaction
- Designed the backend with MongoDB and scalable media storage on AWS S3, wiring authentication and timed-release logic

[Mini Maya](#) | C++, OpenGL, Qt

Feb 2026 – Mar 2026

- Implemented a half-edge mesh data structure enabling efficient traversal and topology-aware editing operations
- Built edge split, extrusion, and Catmull–Clark subdivision on an OpenGL/VBO pipeline with GLSL shaders

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, Java, C++, C#, SQL, HTML/CSS, OCaml

Frameworks & Libraries: React, Next.js, Node.js, React Three Fiber, Three.js, Tailwind CSS, Astro, JUnit

Graphics & 3D: OpenGL, GLSL, HLSL, Unreal Engine 5, Unity, Maya, Blender, Substance Painter

Developer Tools: Git, GitLab, AWS, MongoDB, SQLite, Oracle, Figma, VS Code, IntelliJ