

# Grace Jin

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## Education

**Cornell University**, College of Engineering – Ithaca, NY

Expected May 2027

B.S., Computer Science, Minor in Artificial Intelligence

**Courses:** Analysis of Algorithms, Artificial Intelligence, Data Structures and Algorithms, Systems Programming, Embedded Systems, Digital Logic and Computer Organization, Computer Graphics, Web Development

**Organizations:** Cornell XR Project Team Co-Founder, Rewriting the Code, Women in Computing at Cornell

## Skills

**Computer Languages:** Python, C, C++, Rust, Javascript, Typescript, Java, SQL, OCaml, Verilog, ARM Assembly, HTML, CSS

**Frameworks & Web Technologies:** React, Next.js, Vulkan, WGSL, OpenGL, WebGL, Three.js, Django, Langchain

**Development Tools:** Git, Github, Linux, Gradle, Unity, Figma, Blender

## Work Experience

**Cepton Technologies**, San Jose, CA – Perception Software Engineering Intern

May 2025 – August 2025

- Built 3D visualization pipeline for raw LiDAR point cloud data rendered over synthetic geometries with WGPU acceleration to achieve real-time 60+ FPS rendering performance
- Implemented WGSL compute shaders for parallel raycasting to convert encoder data into rays for geometry hit detection
- Refactored hundreds of lines of Rust legacy code with SDK matrix affine transformations and SVD, reducing technical debt and improving maintainability

**Cornell PoRTaL Lab**, Ithaca, NY – Software Developer

August 2024 – Present

- Engineer a PyGame GUI to generate thousand-line JSON specifications to train an LLM asynchronous planning benchmark, cutting manual specification programming time by 75%
- Expand training task variety by implementing 20+ custom interactive elements in PDDL, enabling robust adaptive learning

**Cornell Center for Teaching Innovation**, Ithaca, NY – Teacher's Assistant

October 2024 – Present

- Developed 3D physics visualizations in Unity and C# of Gauss's law, electric flux, and EM waves for a 500+ student Cornell electromagnetism course with 2000+ playthroughs, funded by a teaching grant for exemplary educational projects

**Space Systems Design Studio**, Ithaca, NY – Software Developer

January 2024 – Present

- Built 50+ unit tests for flight software by flashing C code to hardware in a Class 10,000 cleanroom, such as severing data lines to verify system resilience against in-flight failures
- Lead the development of 2 educational React and Next.js websites with 1000+ visits, featured in the Cornell Chronicle

## Projects and Leadership

**Ray Tracing Game Engine** [GitHub] | C++, CUDA

July 2025 - Present

- Developed a high-performance, multithreaded ray tracer from scratch with bounding volume hierarchy spatial partitioning
- Migrating to CUDA for GPU parallelization, targeting 10x performance improvement over my CPU implementation

**Graphics Rasterizer - Reverse Engineering OpenGL** [GitHub] | C++

July 2025 - Present

- Create a real-time graphics renderer from scratch with a multi-pass rendering pipeline and custom Blender models
- Refactored renderer architecture for parent-child hierarchies and animation with 30+ FPS

**Zoodini - Co-Op Stealth Game** [Demo] | Java, LibGDX, Tiled

January 2025 – June 2025

- Led an Agile team of 6 to develop a 20+ level stealth game, developed the guard AI backend module with A\* pathfinding

**NeuroScent - MIT Reality Hack "Smart Sensing" Winner** [DevPost] | C#, OpenBCI, Unity

January 2025

- Led a team of 5 to develop an olfactory biofeedback system that processes live OpenBCI Galea EEG data through a Unity VR environment to enhance mental well-being via automated aromatherapy
- Integrated Unity to render calming environments and trigger Arduino-controlled scent diffusers upon detecting abnormal biofeedback (i.e., hyperventilation), greatly enjoyed by 10+ judges and 70+ hackers

**Personal Website** [Website] | Javascript, Three.js, GLSL, HTML, CSS

December 2024 – Present

- Includes custom GLSL shaders to map video textures onto a 3D Rubik's Cube, drag-based interaction and solving algorithm

**Computer Science Content Creator** [Instagram]

August 2019 – Present

- Blog various aspects of computing and personal projects to an 18K+ follower audience, generating 3M+ video views