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 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 Native, Next.js, 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 – Present

- Architecting 3D visualization pipeline for raw LiDAR point cloud data rendered over synthetic geometries with WGPU acceleration to achieve real-time 60+ FPS rendering performance
- Engineered custom WGSL compute shaders for parallel raycasting, converting encoder data to 3D rays for simulated geometry hit detection
- Refactored hundreds of lines of Rust legacy code by optimizing SDK matrix affine transformations and SVD, enhancing overall code quality and development efficiency

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 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 award-winning 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