Grace Jin

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EDUCATION

Cornell University, College of Engineering   Expected May 2027
B.S. Computer Science, Minor in Artificial Intelligence
- **Relevant Courses:** Systems Programming and Operating Systems, Data Structures and Algorithms, Artificial Intelligence, Computer Graphics, Digital Logic and Computer Organization, Embedded Systems
- **Organizations:** Cornell XR Project Team Co-Founder, Rewriting the Code, Women in Computing at Cornell

WORK EXPERIENCE

Perception Software Engineering Intern | Cepton Technologies, San Jose, CA   May 2025 – Aug. 2025
- Built a real-time WGPU-accelerated 3D visualization pipeline on Linux systems to simulate LiDAR data rendered over synthetic driving geometries at 60+ FPS
- Implemented WGSL compute shaders to perform parallel raycasting for real-time hit detection and data collection
- Built a 3D environment reconstruction system to generate simulator-ready depth maps and integrated within GPU pipeline
- Optimized Rust legacy code to use standard transformation techniques such as matrix SVD and affine transforms, reducing computation time by 40% in internal benchmarks

Software Developer | Cornell People and Robots Teaching and Learning (PoRTaL), Ithaca, NY   Aug. 2024 – May 2025
- Engineered a PyGame GUI to auto-generate thousand-line JSON specs for an LLM planning benchmark, cutting significant manual programming time for team of 12
- Implemented 20+ custom training tasks in PDDL to improve LLM reasoning with complex and asynchronous tasks

Teaching Assistant | Cornell Center for Teaching Innovation, Ithaca, NY   Oct. 2024 – Present
- Develop 3D Unity visualizations of Gauss's Law and EM waves for a 500+ student electromagnetism course with 2000+ playthroughs, funded by a grant for exemplary educational projects
- Support 30+ students prototyping AR/VR apps on Meta Quest, Unity and Snap AR

Software Developer | Space Systems Design Studio, Ithaca, NY   Jan. 2024 – Present
- Lead the development of 2 educational React and Next.js websites with 1000+ visits, featured in university-wide news

SELECTED PROJECTS

Graphics Rasterizer Engine - Custom 3D Rendering [GitHub] | C++, SDL2, CUDA, Blender   Jul. 2025 – Present
- Build a graphics renderer from scratch with a multi-pass rendering pipeline and BVH partitioned ray tracing capable of rendering 50k+ verticies at 30+ FPS
- Implement a 3D engine with SDL2 to bridge user input with hierarchical object editing and animation
- Migrating to CUDA for GPU parallelization with a current 5x performance improvement over the CPU implementation

Zoodini - Co-Op Stealth Game [Demo] | Java, LibGDX, Tiled   Jan. 2025 – Jun. 2025
- Led an Agile team of 6 to develop a 20+ level escape game, coordinated sprint planning and playtesting
- Developed the guard AI backend module with A* pathfinding and produced all game art assets

NeuroScent - MIT Reality Hack "Smart Sensing" Winner [DevPost] | C#, Unity, OpenBCI, Arduino   Jan. 2025
- Led team of 5 to develop an immersive VR olfactory biofeedback system and Galea EEG data processor for mental well-being enhancement, won out of 400+ competitors
- Integrated Unity to render calming scenes and trigger Arduino-controlled diffusers upon detecting abnormal biofeedback

Personal Website [Website] | Javascript, Three.js, GLSL, HTML, CSS   Nov. 2024 – Present
- Implement procedural WebGL shader projects and Three.js rubik's cube with solving algorithm

Computer Science Content Creator [Instagram]   Aug. 2019 – Present
- Built an audience of 18K+ followers and 3M+ video views by posting computing topics, personal projects and digital art

SKILLS

Computer Languages: Python, Javascript, Typescript, Java, C++, C, Rust, SQL, Bash, Verilog, ARM Assembly, HTML, CSS
Web Technologies & Frameworks: Node.js, React, Vue, Three.js, Django, Vulkan, OpenGL, WebGL, WebGPU, WGSL
Development Tools: Linux, Git, CUDA, RTOS, Docker, GCC, GDB, CI/CD, Gradle, Quartus, Unity, Figma, Blender