EGYPT GARRETT

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EDUCATION

M.S. Computer Science | *University of Southern California* | *Los Angeles, CA* *Expected May 2028*

Relevant Coursework: 3D Graphics & Rendering, Design For Interactive Media

B.S. Computer Science, Minor in Mathematics | *Tennessee State University* | *Nashville, TN* | *Summa Cum Laude* *May 2026*

Relevant Coursework: Advanced Algorithms & Design Analysis, High Performance Computing, Game Programming, Operating Systems, Data Structures, Computer Organization, Linear Algebra, Data Science, Software Engineering

TECHNICAL SKILLS

Languages: C++, C#, Java, Python, Swift, GLSL

Graphics & Engines: OpenGL, Unreal Engine, Unity, Godot

3D Vision: Neural Rendering, 3D Reconstruction

Development Tools: Git, Perforce, CMake, GLFW, GLEW, OpenMP, MPI, MediaPipe

WORK EXPERIENCE

Software Engineering Intern | *Apple* | *Sunnyvale, CA* *May 2026 – Aug 2026*

- Conducted applied computer graphics research for Apple Vision Pro spanning geometry processing, 3D reconstruction, and Gaussian splatting to balance visual fidelity with real-time performance.
- Developed an end-to-end scene optimization pipeline combining mesh reconstruction, per-pixel render comparison, and adaptive Gaussian splatting, reducing evaluated scenes to <10% of original triangle count while preserving visual quality; prototyped an automated USD-to-optimized-scene workflow that reduced optimization iterations from weeks to ~1 hour.
- Collaborated with technical artists and engineering on configurable geometry and Gaussian budgets and presented research and technical prototypes to senior Vision Products leadership, including Director of Engineering Norman Wang and Senior Director Jeff Norris.

Undergraduate Researcher: HCI & Extended Reality | *Tennessee State University* | *Nashville, TN* *Aug 2025 – May 2026*

- Developed a gesture-based interaction system using MediaPipe and Python for a basketball simulation in Unreal Engine (C++) within a CAVE Automatic Virtual Environment, investigating the relationship between interaction fidelity and user immersion.

Computer Programming I Teaching Assistant | *Tennessee State University* | *Nashville, TN* *Aug 2023 – Dec 2023*

- Appointed by Google in Residence software engineer to assist in delivering introductory Java and object-oriented programming curriculum; mentored 30 students in debugging and foundational CS concepts, contributing to a 15–20% improvement in average course performance.

TECHNICAL PROJECTS

3D Game Engine | *C++, OpenGL, GLSL, GLFW, GLEW* *Dec 2025 – Present*

- Architected a real-time 3D rendering engine from scratch in C++, implementing an OpenGL GPU rendering pipeline with GLSL shaders, GPU resource management, GLFW input/context handling, GLEW extension loading, and CMake build configuration.

CPU Ray Tracer | *C++* *Sep 2026 – Sep 2026*

- Built a CPU-based ray tracer implementing camera ray generation, sphere/plane intersections, Möller-Trumbore triangle intersections, Phong shading, shadow rays, recursive reflections, and a Bounding Volume Hierarchy (BVH).

Project Jam | Rhythm Game | *Gameheads* | *Unity, C#* *Jun 2025 – Aug 2025*

- Sole programmer on a 6-person team; designed system architecture and built a custom MIDI parser and BPM-synchronized animation system translating DAW note data into playable sequences and dynamic visual feedback.

Thrash N' Dash | 2D Sidescroller | *Gameheads* | *Unity, C#* *Jun 2024 – Aug 2024*

- Sole programmer on a 6-person team; designed and implemented enemy AI behavior trees, adaptive auto-jump, and precision-based trick scoring systems while translating design specifications into responsive gameplay systems.

LEADERSHIP & COMMUNITY

Programming Lead | *Gameheads Classic Program* *Apr 2026 – Present*

- Led programming sessions for 30+ Gameheads students, conducting code reviews, mentoring technical development, and teaching collaborative workflows through Agile practices while making programming approachable for members of all experience levels.

Founder and President: TSU Skateboarding Club | *Tennessee State University* *Feb 2024 – May 2026*

- Founded TSU's first skateboarding club; distributed 100+ skateboards and secured partnerships with Red Bull, Santa Cruz, and Black Girls Shred to promote accessibility and diversity in sports.

Black Affinity Lead | *Gameheads Classic Program* *Apr 2024 – Mar 2026*

- Organized town halls, community check-ins, and support networks for 40+ Black participants across Gameheads' year-round Classic program, fostering belonging and representation in technical spaces.