

EGYPT GARRETT

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EDUCATION

M.S. Computer Science: Game Development | *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, JavaScript, HTML, CSS, GLSL (OpenGL Shader Language)

Graphics & Engines: OpenGL, Unreal Engine (C++ and Blueprints), Unity, Godot

3D Vision: Neural Rendering, 3D Reconstruction

Development Tools: Git, GitHub, Perforce, Visual Studio, CMake, GLFW, GLEW

WORK EXPERIENCE

Software Engineering Intern | *Apple*
Sunnyvale, CA

May 2026 – Aug 2026

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

Software Engineering Apprentice: Summer Accelerator | *Gameheads*

Jun 2024 – Aug 2024, Jun 2025 – Aug 2025

Oakland, CA | *Nationally recognized nonprofit game development apprenticeship program, covered by NPR, CNBC, NBC News; industry mentors from Sony, Xbox, and major AAA studios*

- Served as the sole software engineer on cross-functional game development teams, designing and implementing gameplay systems while later owning technical architecture, code reviews, and feature implementation across a full Agile production cycle.
- Engineered gameplay and engine systems in Unity (C#), including enemy AI behavior, an adaptive auto-jump system, a precision-based trick scoring system, a custom MIDI parser, and a BPM-synchronized animation system for dynamic visual feedback.
- Presented completed games at the Annual Gameheads Student Showcase before 250+ industry professionals, peers, and community members; projects distributed publicly on itch.io.

Black Girls Code Technical Interview Prep Fellow | *CodePath (TIP 102)*

Jun 2025 – Aug 2025

Remote | *Intermediate-level technical interview preparation program*

- Completed structured curriculum in advanced algorithms, data structures, and system design through CodePath's nationally recognized technical interview preparation program.
- Solved algorithmic problems weekly, participated in mock technical interviews, and built proficiency in interview-style problem-solving and optimization techniques.

Computer Programming I Teaching Assistant: Google in Residence Program | *Tennessee State University*

Aug 2023 – Dec 2023

Nashville, TN

- 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.

STEM Mentor | *All-Star Math Institute (ASMI), Tennessee State University*

Jul 2024 – Aug 2024

Nashville, TN | *Federally funded (Title III) STEM pipeline program, NASA-affiliated*

- Selected as a college-level mentor for a cohort of 40 Middle Tennessee high school students in a university-administered STEM enrichment program designed to increase retention in STEM degree programs and tech careers.
- Delivered hands-on instruction in math fundamentals, contributing to a 25% average increase in post-test scores; the program curriculum also includes enrichment in AI and coding.

TECHNICAL PROJECTS

Custom 3D Game Engine | Independent R&D (C++, OpenGL, GLSL)

Dec 2025 – Present

- Architected a real-time 3D rendering engine from scratch in C++, implementing a real-time GPU rendering pipeline in OpenGL with vertex and fragment shaders written in GLSL.
- Integrated GLFW for window creation, input handling, and context management, GLEW for OpenGL extension loading, and CMake for cross-platform build configuration.
- Managed GPU buffers, textures, and scene resources, implementing memory and resource handling to support real-time rendering performance.

Rhythm Music Game: Project Jam | Gameheads Accelerator (Unity, C#)

Jun 2025 – Aug 2025

- Sole software engineer on a 6-person team; designed and implemented all system architecture from initial planning through final deliverable.
- Built a custom MIDI parser that translates DAW note chart data into real-time playable sequences, and developed a BPM-synchronized animation system for dynamic visual feedback.
- Led technical planning, conducted code reviews, and managed feature prioritization across multiple sprint milestones using Agile methodology.

2D Skateboarding Game: Thrash N' Dash | Gameheads Accelerator (Unity, C#)

Jun 2024 – Aug 2024

- Designed and implemented enemy AI behavior trees, an adaptive auto-jump system, and a precision-based trick scoring system in Unity (C#).
- Sole programmer on the project; translated design specifications into responsive gameplay systems and led all technical implementation.

RESEARCH EXPERIENCE

Undergraduate Researcher: HCI & Extended Reality | Tennessee State University Nashville, TN

Aug 2025 – May 2026

- Conducted experimental research in a CAVE Automatic Virtual Environment (CAVE), analyzing how input modalities such as gesture detection, VR wands, and gamepads affect immersion and interaction fidelity in XR systems through quantitative user studies.
- Developed a basketball simulation in Unreal Engine (C++) as a controlled testbed for comparing interaction techniques, measuring performance metrics, and user response data across multiple test sessions.
- Investigated the intersection of real-time systems performance and human-computer interaction to evaluate technical and experiential tradeoffs in immersive environments, with a focus on latency, frame rate, and input responsiveness.

LEADERSHIP & COMMUNITY

Programming Lead | Gameheads Classic Program

Apr 2026 – Present

- Led programming sessions for 30+ Gameheads students, supporting technical questions and game projects while making programming more approachable for members of all experience levels.

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.

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.

ORGANIZATIONS & RECOGNITION

EICOP 2026 Finalist | Black Girls Code Fellow | National Society of Black Engineers | ColorStack | Rewriting the Code | CodePath | TSU eSports Team