Cullen Goodwin-Schoen

Binghamton, NY 13905
410-953-9737
cullen.goodwin@gmail.com | cullengs.com

OVERVIEW

With 5 years of professional C++ and graphics programming experience, I am a detail-oriented developer who excels in communication, problem-solving, and quickly adapting to new challenges.

EXPERIENCE

Diamond Visionics— *Software Engineer*

October 2020 – Present; Vestal, NY

- Specialize in 3D graphics and engine programming for real-time flight simulation with a proprietary engine; ensuring high-performance rendering, data loading, and accurate visual representation of terrain, weather, airfields, lighting systems, and more for military training and simulation.
- Maintain, optimize, and expand a 14-year-old C++ codebase with over 1.3 million lines of code and over 100 OpenGL Shaders, enhancing performance and adding new features.
- Collaborate directly with military and government customers including the US Navy, Air Force, NASA, and Boeing to gather requirements, assess risks, and deliver timely solutions.
- Led the integration of an OpenXR solution using advanced graphics techniques such as multiview rendering, variable rate shading (VRS), and foveated rendering, optimizing for 90Hz rendering of 3D scenes to various VR and XR headsets (Varjo XR-4, Varjo XR-3, HTC Vive).
- Debug engine and shader code on production systems, using valgrind, gdb, and Nvidia Nsight.
- Integrate third-party software and hardware libraries, including DI-Guy for character rendering, Scalable for blending/warping scenes, Dolphin for reflective memory, and Tsync for timing cards.
- Independently design, develop, document, and deliver new features based on customer requests or internal needs, meeting deadlines and performance specifications.
- Analyze performance metrics with both third-party and internal timers and debugging tools.
- Update and maintain over 450 pages of customer documentation using LaTeX, XML, and HTML.
- Attend conferences (I/ITSEC, SpaceCom, SIGGRAPH) and demonstrate our software capabilities to hundreds of current or potential customers.
- Guide and mentor new employees and interns. Teach the engine architecture, company processes, and source control workflows.

Curly Tiger Studios— *Co-Founder and Owner*

June 2020 - December 2020; Columbia, MD

- Founded and ran an indie game studio LLC remotely, overseeing a team of 4 employees.
- Designed and developed games in the Unreal Engine, using both the Blueprint System and C++.
- Modeled, textured, rigged, and/or animated over 100 assets in Maya to create 3D scene elements including human characters, animals, static props, and dynamic weapons.

EDUCATION

Rochester Institute of Technology (RIT)

August 2017 - December 2020; Rochester, NY

Bachelor of Science, Game Design & Development, *(Summa Cum Laude)*

Minors in: 3D Digital Design; Digital Literatures and Comparative Media

Relevant Coursework: Game Graphics Programming (DX11, C++, HLSL), Programming for Technical Art (Unreal Engine, Blueprint System), Data Structures and Algorithms (C++, OpenGL)