Liam Oliver Stewart

Aspiring programmer in engine development looking for a yearlong industrial placement

2nd Year Game Programming Student at the University of Staffordshire

Technical Skills

- Languages: C++, Python, C#, HTML/CSS
- Libraries: OpenGL, GLFW, DirectX11, SDL, SFML, PyGame, JSON, ImGui, ImGuizmo
- Tools: Git, Unity, Unreal Engine 5, Trello, Visual Studio, RenderDoc

Projects

Luna 3D game Engine – Individual [(project page)](#) (*C++, DX11, OpenGL)*   May 2025 – Present

- Developing a Unity-like engine in C++ with an extensible architecture, supporting multiple render API implementations
- Built a CPU cache-optimised Entity Component System and custom OpenGL and DirectX 11 render pipelines
- Integrated ImGui/ImGuizmo editor, JSON scene serialisation, and Lua scripting using the sol2 library
- When faced with issues within the shadows pipeline, I developed a custom debug shader to better understand what the shadow cascades had rendered

RTS Game Engine – Emperors Armory Studio – Collaborative [(project page)](#) (*C++, SFML)*   December 2023 – September 2024

- Prototyped an RTS game engine in C++ to simulate hundreds of agent interactions
- Built an agent manager using polymorphism to handle unique entity behaviours
- Engineered Python scripts to automate terrain generation, significantly reducing manual design time
- Led a sub-team of 3 programmers, collaborating using Discord and GitHub

Cryogen Boss Fight – Individual – University [(project page)](#) (Unity, C#)   November 2024 – February 2025

- Built a recreation of the Cryogen boss fight from Calamity, a mod for Terraria, using the Unity Engine
- Utilized a finite state machine for each of the bosses' phases, with clear transitions developed for each phase
- Used Unity's shader and particle system to create custom on-hit effects for the player and boss
- Developed a custom "gun inventory" system to store which gun the player was currently using, utilising polymorphism to give each gun unique functionality

Education

BSc (Hons) Computer Games Programming, University of Staffordshire – Achieved first class in Graphics Programming, Bespoke Platform Development, and the Unity modules. Achieved a second in the programming fundamentals and UE5 modules.

BTEC in Cyber, Web and Games Level 3, Bournemouth and Poole College – Achieved DDM across the 2-year course, achieving distinctions In the programming, games development and web development modules.

Employment

Factory Worker, Lush, Poole, Full-time   Summer Job 2025

- Worked collaboratively with a 3–5-person team to keep the production line running smoothly
- Regularly stepped in as acting team lead, coordinating tasks and ensuring quotas were met
- Maintained strict attention to detail and quality control under health and safety regulations
- Adapted quickly to changes in production demands, balancing speed with accuracy to consistently deliver results

Kitchen Porter, Pi's Pizza, Poole, Part-time   Summer Job 2024

- Teamwork, working closely with the chefs. I was responsible for kitchen cleaning and shutdown
- Adapted to changing demands in a fast-paced environment, such as handling unexpected busy periods, stepping in to support chefs, and adjusting to last-minute changes in cleaning or prep routines to maintain quality in the restaurant
- Followed all policies and procedures, especially the food and health safety following my level 2 food safety training

Interests – Enjoy problem-solving games such as Factorio for their constant addictive, iterative progression. Also participate in game jams individually and in teams and occasionally enjoy playing pool with friends.