

# James Sutherland

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## PROFESSIONAL SUMMARY

Senior Digital Games Developer with over 8 years of experience in AAA console development. Expert in C++ and Unreal Engine 5, with a proven history of optimising physics engines to improve frame rates by 15% on PlayStation 5 and Xbox Series X platforms. Led a team of 10 developers to ship two multi-million pound grossing titles on time and under budget.

## WORK EXPERIENCE

### Senior Graphics Programmer | Codemasters | Southam, UK

Jun 2019 - Present

- Optimised rendering pipelines for a major racing franchise, resulting in a consistent 60 FPS on next-gen consoles.
- Developed custom HLSL shaders for realistic weather effects, increasing visual fidelity while reducing draw calls by 18%.
- Refined the memory management system to eliminate runtime stutters, reducing crash rates by 12% across 5 million active players.
- Mentored 4 junior developers on C++ best practices and engine-specific optimisation techniques.
- Collaborated with art leads to implement a PBR workflow that streamlined asset integration by 20%.

### Gameplay Systems Developer | Rockstar North | Edinburgh, UK

Aug 2015 - May 2019

- Architected a modular character controller system used for protagonist movements and combat mechanics.
- Improved AI pathfinding efficiency by 35% through the implementation of a hierarchical navigation mesh system.
- Scripted 20+ unique boss encounters and environmental puzzles using Lua and C++ integration.
- Reduced build times from 4 hours to 45 minutes by implementing a distributed compilation system.
- Led the technical documentation for the internal engine API, used by a team of 50 designers.

### Associate Systems Programmer | Cloud Imperium Games | Manchester, UK

May 2012 - Jul 2015

- Performed low-level porting of legacy engine code to modern hardware architectures for high-definition remasters.
- Re-engineered audio subsystems to support 7.1 surround sound and spatial audio processing.
- Fixed over 500 critical bugs related to collision detection and physics stability during the final push for a major launch.
- Automated the asset bake pipeline, saving the creative team 10 hours of manual labour per week.

## EDUCATION

### University of Manchester | Master of Science | Computer Science (Advanced Computer Science)

Sept 2010 - May 2012

### Abertay University | Bachelor of Science (Hons) | Computer Game Applications Development

Sept 2006 - May 2010

## SKILLS

C++, C#, Python, GLSL/HLSL, JavaScript, Unreal Engine 4/5, Unity 3D, Godot, DirectX/Vulkan, Perforce/Git, Physics Simulation, Artificial Intelligence, Network Programming, UI/UX Implementation, Shaders & VFX

## CERTIFICATIONS

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Unity Certified Professional: Programmer | Unity Technologies (2021)  
Unreal Engine C++ Specialisation | Epic Games (2018)

## LANGUAGES

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English (Native)  
French (Professional Working Proficiency (B2))

## ACTIVITIES

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### **Global Game Jam Mentor**

Providing technical guidance to aspiring developers during annual 48-hour development cycles in London and Manchester hubs.

### **Develop:Brighton Speaker**

Presented a session on 'Optimising Large Scale Environments for Console Hardware' at the 2022 conference.