

Programmer and experienced IT professional with a Master's in Computer Games Technology and an Honours degree in Computer Science. Over 10 years in IT Operations, specialising in automation across diverse technologies. Strong teamwork and communication skills, with a passion for continuous learning. Currently developing personal projects to enhance game development expertise. Seeking a full-time game development programming role.

## Education

**Grade: Distinction**

Sep 2023 – Sep 2024

**MSc Computer Games Technology, Abertay University**

Notable modules and grades:

- Programming for Games: A+
- Advanced Procedural Methods: A
- Game Design and Development: A
- Research Methods: A+
- Master's Project: B+

**Grade: 2:1**

Sep 2008 – Sep 2012

**BSc Hons Computer Science, Heriot-Watt University**

Academic transcripts available on request.

## Skills

C#, C++, Unity, Unreal, DirectX 11, DirectXTK, HLSL, ShaderLab, RenderDoc, Git, Visual Studio, SDL, SFML, Python, PowerShell, Blender, Applied Mathematics

## Projects

**Viva Las Mages (Student Game Development Project)**

Feb – Apr 2024

As the lead programmer and co-designer in a team of 7 (consisting of artists, designers and an audio specialist), developed a vertical slice of a game (playtime ~25 minutes) over 12 weeks based on a novel concept featuring dungeon exploration, card playing, and risk-reward mechanics.

Responsibilities included:

- All programming except audio.
- Gameplay and level design.
- UI design and implementation.
- Version control.

## Master's Project (Procedural Cave Generation)

May – August 2024

As part of a dissertation, a tool was developed within Unity to procedurally generate 3D caves containing stalagmites and stalactites using cellular automata and isosurface algorithms.

Implemented features included:

- Multithreaded cellular automata algorithm.
- Marching Cubes 33 algorithm.
- Dual Contouring algorithm utilising a quadratic error function and singular value decomposition.
- Stalagmite and stalactite generation.
- Tessellation and Phong smoothing.
- Perlin noise-based vertex displacement.
- Texture blending based on surface angle.



## Employment History

### IT Infrastructure Engineer

Sep 2017 – Present

#### ***Zonal Retail Data Systems (Hospitality Technology Solutions Provider)***

- Responsible for helping to increase the performance and resilience of an extensive infrastructure platform, with a focus on automation, virtualisation, storage and backup solutions.
- Developed PowerShell solutions to automate processes (such as configuring servers and virtual machines), monitor critical infrastructure, and solve problems in an efficient and repeatable manner.
- Produced documentation and delivered presentations to explain and demonstrate concepts and solutions to fellow engineers and management.

### Multiple IT infrastructure roles

Nov 2013 – Mar 2017

#### ***Hewlett-Packard/Hewlett Packard Enterprise/DXC Technology (IT Services and Consulting)***

- Joined graduate programme and held positions of *Peripherals Integration Engineer*, *Build Integration Engineer*, and *Build Engineer* which became a permanent, non-graduate role.
- Installed and maintained hardware and software in non-production data centre environments used as development, integration and testing platforms.
- In collaboration with a colleague, hosted presentations and site tours for work experience students on a regular basis.

## “ References

Available on request.