

Shane Christopher

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Technical Skills

- **Programming Languages**
 - C++, C#, Python, HLSL/GLSL
- **Programs**
 - Unity, Unreal, Blender, Maya, Visual Studio, Rider
- **Other Skills**
 - Agile, Git, Terraform, AWS, WebGL

Work Experience

- **Five AI (May 2018 - Present)**
 - Joined the newly created Simulation team to develop our high fidelity simulator for the testing of autonomous vehicle stacks. First developed in Unreal, we decided to convert it to Unity after the prototype demo to allow for faster development. It was originally designed to replicate key sensors on the vehicle including cameras, lidar and radar. I was heavily involved in the data ingestion tools as well as the lidar simulation in collaboration with a third party.
 - The Simulation team branched out to include visualisation of recorded data from our vehicles and simulation runs. I lead the team to develop our visualisation stack and frontend. It originally used offline kubernetes jobs to convert the data into the XViz format and then stream that into a WebGL frontend developed with Unity. It has since moved to direct streaming and conversion of the data within the frontend itself.
 - I am currently the scrum master for the Simulation team and have experience leading senior engineers as well as mentoring junior and intern developers.
- **Double Negative (Jan 2011 - May 2018)**
 - Lead a collaborative government project with Epic Games and NCam to develop in-house virtual production for use throughout the VFX pipeline. This involved the development of a hand-held virtual camera as well as a pipeline for transforming our visual assets into a suitable quality and format for real-time viewing.
 - Lead engineer for Sombrero, our in-house look description format. I took the technology from initial planning through to implementation and integration into multiple content creation tools including Unreal, Maya and Houdini. Also developed a standalone viewer which quickly let our artists preview a model with a look applied.
 - Lead engineer for Spectre, our real-time volumetric preview library designed for use in Maya, Nuke and a standalone viewer. Was the only tool available at the time to downsample and preview large OpenVDB data sets in near final render quality.
 - Engineer on DNB, our volumetric production renderer, built a node editor based material definition tool that allowed artists to create complex shaders for the renderer when previously they were forced to use parameterised uber-shaders.

Education

- **Trinity College Dublin (Sept 2009 - Sept 2010)**
 - M.Sc. Interactive Entertainment Technology
 - Modules: Rendering, Physics, Animation and Augmented Reality.
 - Thesis: *Integration of Ray-Tracing Methods into the Rasterisation Process*
Used a GPU based raytracer written in DirectX 9 for secondary effects such as a shadow pass during deferred rendering.
- **Galway-Mayo Institute of Technology (Sept 2008 - May 2009)**
 - B.Sc. (Hons) Software Development
- **Dun Laoghaire Institute of Art, Design and Technology (Sept 2003 - May 2006)**
 - B.Sc. Multimedia Programming

Personal

I enjoy leading and being part of a team while also supporting others. I have great communication and presentation skills which I've found critical in my professional career. One of my more prominent skills is the ability to pick up new languages or technologies quickly which enables me to intuitively ramp up new projects in a short amount of time.

I have been involved in online collaborative mods for several game engines starting with the source engine and cryengine at an early age. More recently I have started to work on home automation, building and hosting an Unraid server as the core of the system, adding in various IoT devices and my own home-brewed creations using boards like the ESP32 for Wi-Fi control of devices in the house. Most recently I have created a Zigbee network for control of lighting and sockets as well as sensors for temperature and humidity that control heating and extractor fans. I love learning new technologies especially when they have a strong practical use such as this.

I also have an interest in VR; I have worked on a few personal projects, the most interesting being a game that let the player design a rollercoaster as if it was on the table in front of you and then ride on it. I enjoy using VR in flight simulators and have also modified and built from scratch some basic controllers and throttles.

I am an avid hiker, climber and snowboarder and like to spend time outdoors with friends when possible.

References

- **Rich Yandle**
 - Founder at Madorium (ex Director of Simulation at FiveAI)
 - Phone: 01962 777 667 or 077 45962515
 - Email: rich.yandle@madorium.com
- **Oliver Harding**
 - Senior Software Engineer R&D, Double Negative
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