

Technical Skills

Languages: C#, C++, GLSL, Python, HTML, CSS

Tools: Unity, Visual Studio, Git, Perforce, a little Unreal

Education

University College London (UCL) – BSc Computing Studies* – First-class Honours

Sep 2017 – Sep 2022

- *Team leader* on first and second-year projects, achieving a *first* in both
- Final project: *C++* and *OpenGL* tool to create models from 2D images

Banbridge Academy – 5 A-Levels (A*A*AAB)

Sep 2015 – Jun 2017

- Mathematics, Further Mathematics, Software Systems, Physics, Biology
- Awarded for top results and achievement; self-taught Further Mathematics

Relevant Employment

Sports Interactive – Junior Software Engineer (Football Manager 22 & 23)

Aug 2021 - Present

- Responsibility for both features and bug fixes in *C++* and *shader languages* on PC, PS5 and Switch hardware
- Worked collaboratively with both technical and non-technical team members

Great Ormond Street Hospital NHS Foundation Trust – Software Engineer Intern

Jul 2019 – Sep 2019

- Developed an Android virtual pet augmented reality (AR) app for young patients using Unity
- Designed a visual scripting system using C# reflection that exports results to a DLL
- Used .NET Core and SQL Server on Microsoft Azure to store game state information

UCL Institute of Child Health – Software Engineer Intern

Jun 2018 – Aug 2018

- Debugged and developed Unity games for cystic fibrosis devices
- Participated in stand-up meetings with Microsoft engineers and MSc students

Selected Projects

<https://tiernanwatson.com> Twitter: [@tiernanwatson](https://twitter.com/tiernanwatson)

Odyssey Game Engine (C++, Data-Oriented/ECS, Direct3D)

- WIP *C++* game engine with a *data-oriented design* including an *ECS architecture* with custom allocators
- Designed reflection system using template meta-programming to edit components at runtime
- Created own data structures including quaternions and matrices with their math functions

URaider (Unity, C#, Gameplay)

- Developed a framework for Unity that allows users to create Tomb Raider levels
- Designed systems for rope-swinging and ledge targeting using physics knowledge
- Designed a state machine to manage the large amount of player states

2178: Resistance (Unity, C#, Gameplay, Rising Star Finalist Entry)

- Third-person shooter prototype entry for Rising Star with high scoring in *C++* assessment
- Rope swinging system implemented with simple harmonic motion

Portals (Unity, C#)

- Replicated the portal effect from Valve's Portal game

Activities

Hackathons: UCL PixelJam Gaming (2017), Search for a Rising Star (Finalist) (2019), Search for a Star (Finalist) (2020)

School: Programming Tutor (19/20), Technology Society, School Prefect (2016 – 2017), Python Tutor (2016)

* Same course and standard as Computer Science. Naming difference due to extenuating circumstances - happy to discuss.