

## Profile

A forward-thinking C# and Python developer, with an appetite for progression and great ambitions. Established organisational and professional skills as a team leader, with a reputation for trust and openness. Strong team ethos and analytical ability, with a love for challenging work and problem solving. Developed & proven communication and interpersonal skills. Keen interest in virtual and augmented reality applications, remote operations, logical problems, and researching new things.

## Technical Skills

C#, JavaScript and Python	Unity Engine and Editor Scripting
Git Subversion Management	Software Diagnostics and Prognosis
Procedural Mesh Generation	AWS, Sentry and API Integration
UX and UI Design	Jenkins Pipeline Monitoring
Agile and Scrum Framework Integration	Jira, Bitbucket and Confluence
Continuous Integration Deployment Management	Blender, Photoshop and Procreate

## Relevant Experience

### Lead Developer: Core Software Stack, Immersive Reality

May 2023 – Present

Owning and expanding upon a core technology stack, from within a central system working within ASP.NET and Python, and out towards data-driven presentation layers powered by UWP and Unity, with manual and automatic control integrations for the proprietary localised IoT platform "IRiS". Managing content and asset development teams to deliver purpose-built immersive experiences, with scalable and dynamic systems for information-oriented therapeutic and educational applications. Liaising and coordinating external service providers, executing cloud-based resource management development, and deployment on a global scale. Communicating complex technical concepts and development objectives directly to CEO, CTO and clients alike, leading company-wide project progression visibility and awareness reporting.

### 3D Developer / Kanban Team Leader: Planner Development, Wren Kitchens

April 2022 – May 2023

Managed deployments, and continuous integration of developed items of value, into a multi-platform codebase via Jira and Jenkins pipelines. Improved user experiences on an international scale, as software builds and ships to showrooms throughout the UK and USA. Built scalable features across technical and creative disciplines, using C# with Unity scripting and S3-based asset bundle management. Scoped and specified on projects designed to scale with increased international adoption, pursuing the legal protection of patent applications and accredited inventorship. Lead a team of two developers and three QA testers, whilst integrating Agile and Scrum principles within an itemised Kanban workflow. Used Jira to monitor team performance, and plan ahead accordingly on a rolling weekly schedule. Worked with product owners and stakeholders to shape internal process and priorities, within consistently realistic timeframes whilst maintaining high standards of quality. Integrated new members of the department into the process, assisting skill growth and domain knowledge transfer within staff, to create production-ready feature developers.

### Junior 3D Developer: Planner Development, Wren Kitchens

June 2021 – April 2022

Produced continuous, project-focused and business-centric points of value for external product owners. Illustrated visual outcomes of technical solutions via live demonstrations, given within Scrum ceremonies to key stakeholders, using C# with Unity and AWS. Worked as part of a five-person development team, synchronising with Git and using Jira for prioritised issue management. Pinpointed errors within root cause hypotheses for customer-journey-centric issues as a matter of routine, and delivered working patches for problems on the same day. Interfaced with artists as an internal provider of development tools, to increase efficiency and maintain heightened synergy between teams. Developed testing routines for internal Quality Assurance, and assisted with improving internal diagnostic practices. Delivered retail-ready features, across Mac, Windows, HTC VR and distributed EC2 rendering platforms, as a part of projects with business values in the millions.

### Laboratory Assistant: University of Hull, Faculty of Science & Engineering

February 2018 – May 2021

Assisted with preparation and fulfilment of practical lab sessions. Educated second and third year students in a variety of paradigms, including C# scripting for Networking and Unity applications, deployment to remote devices such as the HoloLens 2, Javascript and XML integration for front-end development, and Git repository systems. Guided students through laboratory assignments, helping them build concurrent server applications to address formal academic requirements. Assisted second year students in managing team projects for business-oriented specification and functionality implementation, whilst developing contemporary ethical understanding with respect to data handling. Monitored and assessed student progress on behalf of Lecturers, and guided many to success.

## Education

### **BSC Computer Science: First Class with Honours, University of Hull**

September 2016 – July 2020

Completed functional software assignments, demonstrating capability towards independent study and understanding new and radical development concepts. Communicated effectively via written reports and group scrum meetings, and adapted to remote working by adopting agile development strategies. Focused on research and development for head-mounted displays, improving team workflows by leading when necessary, whilst developing room-scale simulations with facilities for remote control. Managed long-term schedules for multiple concurrent deliverables, learning to effectively use iterative development strategies to progress. Used subversion management via Git to maintain changelogs, track task completion and gauge progress throughout.

### **Modules**

Third Year: Virtual Environments, Advanced Software Engineering, Visualization, Data Mining and Decision Systems.

Second Year: Electronics and Interfacing, Database Techniques, Systems Analysis Design and Process,  
Artificial Intelligence, Advanced Programming, Networking and User Interface Design.

**Virtual Environments** - Managed a group project developing software for the HoloLens platform, using Unity with C# scripting to enable remote operation and calibration. Developed a 360-degree video player for the Oculus Rift, with diegetic user interfaces, and focus-activated displays.

**Research Project (Virtual Environments and Dexterity)** - Planned and documented a research project for evaluating spatial distortion effects in virtual reality, which incorporated a virtual testing environment to be deployed on the Oculus Rift Touch platform, using Unity with C#. Developed custom assets using 3DS Max and Blender. Successfully implemented environments captured using photogrammetry, automatically generated experimental metrics, hand-dependent controller inputs and remotely configurable avatar user representation.

**Visualisation** - Used Git source control, D3.JS and Paraview to create and evaluate scalable, multi-dimensional abstract visualisation objects for engineering and financial data sets. Produced interactive radar charts and OHLC stock graphs, for implementation in a front-end oriented web environment.

**Advanced Programming** - Produced a wordsearch solver using C++, with process threading, pointers, references, linked lists, and efficiency instrumentation.

### **MSC Computer Science for Games Development, University of Hull**

September 2020 – June 2021

Practised efficiency-oriented approaches to produce C++ and DirectX practical assignments, using GitHub for synchronising workflows around online code repositories, allowing for development from home. Repurposed C# software using Monogame libraries as part of an agile development team, using scrum frameworks and online Kanban tools to synchronise across a sprint-centric workflow. Used Git-based branching and pull requests to develop as a team.

## Projects and Interests

### **Data Science, Machine Learning and AI**

Leveraging a cross-codebase architecture with professional experience of C# and Python, against previous academic experience with data science and machine learning. Implemented vector-based, multi-dimensional structures for agent accuracy optimisation and parameter configuration, with multi-threaded parallelised training structures and event-driven automated testing. Identifying non-obvious predictable patterns across time series data, with augmentations from ascending orders of moving average interpolation, working back to root data elements for sequential prediction.

### **Graphic Design and Asset Creation**

Produced poster graphic, three-dimensional model and merchandise designs for University societies and student union election campaigns, across Hull and York. Coordinated publicity and event marketing campaigns with local venue owners and organisers. Developed virtual environments for the Janus VR platform, using Source 2 and Unity.

### **Music and Audio Production**

Experimented with physically-modelled VSTs, sample banks and simulated guitar effects to produce standalone music projects, and score various independent game titles. Released 3 EP collections via online music streaming services, gaining a small international audience. Producing new music, for local symphonic power metal band concepts and live performers, throughout a local network of professionals and hobbyists.