

Professional Summary

First Class Computing Science MSci graduate from the University of Glasgow with experience building and evaluating interactive software, AI prototypes, and user-facing applications. Combines strong software engineering foundations with practical experience across Unity, React, real-time AI systems, and user research.

Education

University of Glasgow | MSci Computing Science | First Class Honours | Sep 2021 – Jul 2026

- Recipient of the World Changers Global Excellence Scholarship.
- Honours Class Rep & Tech Society Committee Member.

Professional Experience

XR Interaction Research Intern | University of Glasgow: School of Computing Science | Jun 2025 – Sep 2026

- Evaluated Human-AI alignment and trust-based behavior shifts through a 20-participant mixed-methods study investigating how an embodied agent's relational framing (*Assistant* vs. *Companion*) and embodiment styles impacted user perception in proactive intervention scenarios. Research findings inform a proposed CHI submission I co-authored with senior staff.
- Engineered a proactive multimodal intervention policy by integrating Unity-based collision detection with the OpenAI Realtime API (`gpt-realtime-2`), allowing the agent to infer user intent and intervene based on physical environment interactions (e.g., removing items) without requiring explicit voice triggers.
- Developed an affective decision-making loop that mapped Pleasure-Arousal-Dominance (PAD) dimensions to dynamic agent embodiments (*anthropomorphic* vs. *abstract*), enabling the AI to contextualize its responses and emotional posture in real-time based on user-utility tradeoffs.

Graduate Teaching Assistant | University of Glasgow | Sep 2025 – May 2026

- Co-taught labs of 30 students for a Masters-level Extended Reality (XR) course.
- Mentored all 28 students individually, then 7 teams of 4 through VR escape-room projects, helping connect narrative, embodiment, locomotion, and puzzle design; and supported Unity troubleshooting.

Notable Projects

earthPlace: Geo-Persistent AR Sandbox | Aug 2025 – May 2026 Masters Research Project / Extended toward publication

- Architected a cross-platform (iOS, Android, Meta Quest) geo-persistent shared AR voxel sandbox where 3D creations are anchored to real-world locations.
- Engineered the spatial data pipeline and backend to store and synchronise user-generated 3D maps, and evaluated with 30+ participants in the wild.
- Prepared App Store and Play Store submissions, including release materials and privacy documentation.

Trailblazer | Sep 2024 – May 2025 Honours Dissertation

- Engineered a gamified MR cycling experience for Meta Quest 3; inspired by *Tron* where players collect items to try and increase their score while avoiding collision with their trail.
- Validated interaction safety through a 17-participant outdoor study where riders cycled real bicycles in a courtyard while wearing the headset with passthrough.

NeuroArcade | Lead Demonstrator | Sep 2023 – Apr 2024 Team Software Project

- Key contributor of an Agile Scrum team which delivered a unified frontend for processing and displaying complex data visualisations from psychology games played by AI models; implemented with Django and React.

404 Plane Game | Hackathon Winner | Oct 2025

- Won the *freetobook* challenge at the *Do You Have the GUTS?* 2025 hackathon. Built a mini-game for booking site error pages in under 26 hours using PixiJS and Vite.

High-Performance Constraint Program Solver | Nov 2024

- Developed a custom CP model in MiniZinc and predicate logic to solve the “Infectious Firefighter” problem, optimising search heuristics to outperform efficiency benchmarks.

Technical Skills

Programming Languages: Python, JS/TS, C/C++, Java, C#, Haskell, Go, Erlang, Swift. **Spoken Languages:** English, Arabic.

XR & Game Dev: Unity, Godot, Unreal, Meta XR SDK, Niantic SDK, Three.js, A-Frame, PixiJS.

AI & ML: PyTorch, TensorFlow, scikit-learn, Whisper, OpenAI API, Ollama, Hugging Face.

Scientific & Parallel: Qiskit, NumPy, SciPy, Matplotlib, pthreads, OpenMP, MPI.

Web Dev: React (Native), Vue, Django, Flask, Vite.

Cloud & Data: Docker, Git, Firebase, GCP, AWS, Azure, PostgreSQL, MongoDB, MySQL.