

Connor Hamilton

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Profile

Junior Software Developer with a First Class Master of Computer Science from the University of Bristol. Blends hands-on industry experience - from developing full-stack apps in a small consultancy firm to delivering backend tools at Barclays - with a year of user-focused postgraduate research. Seeking full-time opportunities to build software that makes a difference.

Experience

Postgraduate Researcher, University of Canterbury

March 2024 to March 2025

- Led a PhD project designing wearable rehab devices with seven physiotherapists to understand patient and clinician needs.
- Developed a prototype shoulder brace using flexible 3D Printing with patient-specific motion limits, by converting non-technical requirements into functional, iterative prototypes, enabling greater freedom in safe directions while restricting harmful movements.

Junior Software Developer, Spark Data Systems

October 2023 to March 2024

- Developed full stack browser based applications using both the modern .NET 8 Blazor framework and legacy ASP.NET WebForms, with normalised T-SQL databases.
- Deployed applications with Azure Pipelines to Azure Cloud Computing Services.
- Took on the leadership of Junior Developer daily standups to foster shared learning.

Creative Technologist, Freelance

May 2023 to September 2023

- Built pneumatic valve systems for six 3m-tall inflatable robots exhibited in Bristol's Playable Cities program (AirGiants).
- Facilitated user playtesting sessions to gather user feedback, and support iterative improvements to the interaction design (AirGiants).
- Co-developed an interactive bus stop installation to promote commuter engagement during a Make Shift Creative Camp residency (Pervasive Media Studio).

Software Developer Intern, Barclays Bank

July 2021 to September 2021

- Developed a Spring Boot API gateway to ensure compliance with Barclays' internal standards. This was delivered ahead of schedule and exceeded supervisor expectations on a stretch assignment.
- Wrote unit and integration tests with JUnit to support newly developed REST endpoints and improve test coverage by 21 percent.

Project work

Giant Inflatable Hugging Robots - Master's thesis

Link to further detail: <https://github.com/hamiltonrconnor/HuggingRobots>

- Investigated Hugging interactions with Giant Inflatable Robots. Over four months, I created a design space for soft robotics, ran three user research studies with a total of 46 participants, following data analysis proposed five guiding principles to designing huggable inflatable robots and developed a low-cost, low-pressure pneumatic joint system controlled using custom 3D printed valves.
- Feedback for the project commented that I worked in “uncharted territory” and this work could “be part of a published paper”.

BirdGang - Group Games Project

Link to Game: <https://hamiltonrconnor.github.io/BirdGang/>

- Led the development of a 3D browser-based game using the Unity game engine. The project was “judged as outstanding [...] entering truly professional territory”.
- Established ways of working that enabled effective group collaboration including code reviews, weekly integration meetings and scrum-style sprints, allowing us to adapt our process based on group feedback.
- Implemented the Boids algorithm to produce realistic flocking behaviours.
- Solved network performance issues by utilising local calculations and lag compensation enabling the synchronisation of hundreds of AI agents.

Technical Skills

- C# using both Unity Game Engine and the .NET 8 Blazor framework.
- React with JavaScript and TypeScript for personal websites and hackathon projects.
- Python e.g. audio classification with PyTorch and deep learning library that mimics learning in the brain.
- C++ using OpenCV (computer vision library) and have built my own basic graphics renderer.
- Java, including building services with the Spring Boot framework.
- GitHub Actions as part of a CI/CD pipeline.
- C using OpenMP and MPI to distribute, paralyse, vectorise and optimise programs for the BlueCrystal Supercomputer.
- HTML and CSS with Bootstrap and Tailwindcss frameworks.

Education

University of Bristol — Computer Science M.Eng (1st) - 2019 to 2023.

Related units: Applied Deep Learning, Parallel and Distributed system, Computer Systems B (Operating Systems and Security), Image Processing and Computer Vision and Computer Graphics.

Stanwell School — 2012 to 2019.

A-levels — A*A*AB including A*'s in Maths and Further Maths.