

David Cain | <https://davidcain.uk>

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Computer Science - First-Class Honours.

1 year of industry experience in test automation and embedded systems.

Strong skills in Git, Full Stack, C#, JavaScript/TypeScript, React, Node.js, C/C++, Parallel Programming, Embedded Development, and AI.

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## Education:

### BSc Computer Science with Industrial Experience – University of Hull

September 2021 – July 2025

- First-Class Honours
- Distributed Systems, Parallel Programming, Machine Learning, UI/UX, Placement Year

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## Year In Industry:

### Automation Engineer & more – (Year in Industry) – Sabre Technology

July 2023 – July 2024

- Automated large-scale embedded system testing using Robot Framework to reduce manual test effort for team
- Collaborated across firmware/test teams in Git (tickets, pull requests, branching), and management in weekly meetings
- Developed internal tools to help team productivity:
  - Python LoRaWAN packet decoder library using YAML message schemas for extensibility
  - WPF frontend for a barcoding tool
  - Google Sheets Hex Message encoder and decoder
  - Documentation for tools and processes
  - Pick and Place file processing script

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## Selected Projects:

- **Cryptography & Authentication API – Uni Assignment – (C#, ASP.NET Web API, Entity Framework)**
  - REST endpoints for SHA hashing and signing, RSA and AES encryption, accounts, API keys, and more
  - Implemented in ASP.NET Web API, and Entity Framework with C# client using the API for local services
- **OV7670 Camera & Web Interface – Own Project – (C, CMake, JS, HTML, CSS, Python, Flask, KiCad)**
  - C RP2040 firmware and custom high frequency PCB to stream image data from bare-bones CMOS sensor module to Python Flask server over serial under microcontroller memory and clock limitations.
  - JS frontend uses the API to take images and set registers, rendering with HTML Canvas
- **Honours Stage Project – Uni Module – (JS, HTML, CSS, HTML Canvas)**
  - Created a zero-footprint web application for creating visual radiology reports for 3D medical scans.
  - Created a JavaScript rendering library for multiplanar reconstruction, slicing, segmentation, and rendering with a Web App interface and conducted user testing and evaluation
- **Parallel Programming – Uni Module – (CUDA, Rust, OpenGL)**
  - Utilised Cuda and multithreaded Rust to parallelise ray casting, bird flocking simulation, matrix multiplication, and more with massive performance boosts using memory tiling, locks, and more
- **Machine Learning – Uni Module – (TensorFlow, PyTorch, GAN, CNN)**
  - Created, trained, fine-tuned, and regularised deep CNNs and GANs in TensorFlow and PyTorch to solve written digit labelling and synthetic data generation. Accelerated with Google Colab cloud TPUs and GPUs
- **Full Portfolio:** <https://davidcain.uk>

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## Skills:

• C# • JavaScript/TypeScript • Node.js & Express • React • HTML & CSS • C, C++ & CMake • Python • Robot Framework  
• CUDA • Rust • SQL • Entity Framework

• Git • Microsoft Azure • Parallel Programming • AI, TensorFlow, PyTorch • Unity • Blender • KiCad • Figma • Google Colab  
• Google Sheets + Excel • Matplotlib • Postman

• Agile • Waterfall • UML • Wordpress • Embedded Systems • Electronics • Art & Design

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## Achievements:

- **Best Certificate Academic Performance in Computer Science (University of Hull)** 2021 – 2022
  - **AZ-900 Azure Cloud Fundamentals (Microsoft)** May 2022
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## Additional Work Experience:

**AI trainer – Outlier AI** *January 2026 – Present*

- Evaluate AI responses, label multimedia content, write feedback and prompts

**Email Marketing & Lead Acquisition – Perimeter Site Security** *October 2025 – January 2026*

- Collect construction leads from multiple channels for use across sales team
- Send bulk personalised outreach emails to potential clients pitching site security
- Created occasional web scrapers and scripts to gather contacts etc.

**B2C Telesales Advisor – Clearanswer** *July 2025 – October 2025*

- Utilised internal systems to sell, and manage customer accounts and contracts for BT and EE broadband Mobile and TV
- Collaborated with other departments to solve non sales needs
- Communicated technical details of sims, devices, and broadband technologies to consumers in clear and understandable manner to increase sales

**Student Demonstrator – University of Hull** *September 2022 – July 2023*

- Helped teach C# Object Oriented Programming to 1<sup>st</sup> year students in Labs
- Developed listening and explanatory skills by communicating and breaking down concepts to a variety of students in different modules

**Part-Time Work – Various** *2019, 2020, 2021*

- Work pre-university at various cafes, restaurants and fast paced environments