

About me

I'm a hard working and motivated software engineering graduate, with home lab experience with system infrastructure, containerization, and understanding of backend development. With my free time taken up with building c++ application, creating passion project on weekend. As an aspiring software engineer, I'm always looking to hone in my skills, and take on new challenges

Work Experience

Repair Technician	SustainableTech4Good	May 2024–Present
Repair Team	Stevenage, Hertfordshire	
• Configured and deployed a containerized FOG imaging solution using Docker and a custom DNS bridge to automate PXE network booting, drastically reducing OS deployment times across laptops, and desktops. • Contributed to internal software development by designing and implementing feature enhancements (such as data auto-fill) for the company's booking system, streamlining user workflows and improving data handling. • Operational processes by helping to organise and allocate orders on daily basis. • Device repairs by assessing devices damage, repairing and replacing parts.		

Education and Certifications

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| • B.Sc. Computer Science 1st Class , University of Hertfordshire, Herts. | 2023 – 2026 |
| • OCR Level 3 Technical Extended Diploma in IT , North hertfordshire college, Herts | 2021 – 2023 |

Technologies and Languages

- **Languages:** Python, C++, Java, JavaScript, HTML, CSS
- **Frameworks & Technologies:** FastAPI, GTKmm, PostgreSQL, MySQL, Docker, Podman, Linux, Git, Godot
- **Core Competencies & Other:** Data Structures and Algorithms, REST APIs, WebSockets, Networking & PXE, System Architecture

Projects

[Cellular Automata Simulation Engine \(Final Year Project\)](#) | C++, GTKmm, Catch2, Multi-threading

- Designed a modular C++ simulation framework for 2D cellular automata, while utilising multi-threading and different types of in-memory stores to evaluate performance between memory architecture.
- Created a responsive GTKmm desktop GUI for real-time visualization.
- Handled validate through Catch2 unit tests to help look for code correctness.

[Concurrent In-Memory Key-Value Store](#) | C++, Multi-threading, Synchronization

- Created a thread-safe, sharded key-value store in C++, utilizing shard-level mutex locking to minimize lock contention under heavy multi-threaded workloads.
- Integrated a memory persistence policy while a background process creates snapshot to ensure efficient data management and durability.

[Turtle-net - Fleet Communcation Bridge Backed](#) | *Python, FastAPI, WebSockets, Docker*

- Developed a real-time command-execution and communcation backend using Python, FastAPI, and WebSockets for distributed control of turtles, orgainsitions of fleet.
- Containerized the application programming interface with Docker, implementing reliable state persistence and high-performance communication protocols for client to client communcations.

Interests

- **Home-lab:** Passionate about self-hosting infrastructure, configuring domain routing, managing TLS certificates, and hardening endpoint security for web spaces, while creaint development area for projects live runtime environment.
- **Logic & Automation:** Enjoying puzzle and automation-heavy games (Portal, factory builders, and code-driven strategy titles like The Farmer Was Replaced).
- **Hardware & Custom Builds:** Assembling custom PC hardware, component tuning, and optimizing low-power server architectures.
- **Linux Gaming & Server Management:** Experimenting with compatibility layers (like Proton) to run games on Linux, and setting up dedicated community game servers.