

Alfred Jijo

· Liverpool, England · +44 7465 420777 · alfredjijo06@gmail.com · linkedin.com/in/alfredjijo06 ·
· alfred-jijo.github.io · github.com/Alfred-Jijo ·

Profile

Motivated software engineering student specializing in system programming and low-level application development. Experienced in designing robust, high-performance software tools, libraries, and automation for Linux and Windows platforms. Adept at leveraging C, C++, and Python for systems integration, resource management, and hardware interfacing. Proactive problem solver with a strong attention to detail and a passion for code optimization, reliability, and developer tooling. Seeking opportunities to innovate on core system components, improve performance in large-scale environments, and deliver impactful solutions that drive engineering excellence.

Technical Skills

Languages:	C, Python, C++, Java, SQL, Go
Controls & Algorithms:	System Modelling, State Machines, Real-time Data Processing
Hardware & Mechatronics:	Raspberry Pi (HW/SW Integration), PiCamera, Serial Communications
Tools & Platforms:	Git, JetBrains IDEs, Linux, Windows
Spoken Languages:	English: fluent

Leadership Experience

Software Engineering Team (SET)
Co-Lead (Project Hyperion)

Liverpool John Moores University
Oct 2025 - Present

- Co-leading and mentoring a team of 18 student developers in a software/hardware environment.
- Guiding the design and development of an automated sky-monitoring and control system, integrating Raspberry Pi hardware, Pi Cameras, and remote server data transmission.
- Developed closed-loop feedback algorithms for device positioning and real-time calibration to maximize system accuracy and robustness.
- Worked with researchers to refine requirements and validate tracking and control logic in testing environments.
- Oversaw experimental deployment, system calibration, and hardware-software troubleshooting.

Projects

ASMR-Lang
CLI / Language Design

HackNotts '25
GitHub | Devpost

- Co-designed and prototyped an assembly-inspired programming language mapping program operations to generative audio with feedback logic.
- Applied compiler and interpreter theories for hands-on language implementation in a competitive, time-pressured environment.
- Managed code/design contributions via Git, demonstrating rigorous collaborative engineering.

ccDB — C99 Project Template

Build Tooling & Scaffolding

Personal Project
Codeberg

- Architected a standardized C99 development scaffold featuring a portable, self bootstrapping build system (via `mate.h`) to eliminate complex Makefile/CMake dependencies.
- Implemented a modular “base” layer providing cross-platform logging and common utility headers, streamlining the setup of high-performance C applications on Linux and Windows.

Discord Timestamp Generator

Native C & Win32 API

Personal Project
GitHub

- Built a hybrid GUI/CLI utility in C for high-accuracy timestamp conversion and automation workflows.
- Designed event-driven and timing algorithms for performance sensitive scenarios; used, tested, and debugged by the wider community.

warden.h — C99 Memory Allocator Library

Single-file Header, MIT License

Personal Project
Codeberg

- Designed a modular, STB-style single-header library providing region-based memory management (Linear Arena) to optimize cache locality and achieve $O(1)$ allocation performance.
- Engineered a polymorphic `WardenAllocator` interface with type-safe macros (`make`, `release`) to abstract implementation details and reduce void pointer casting errors.
- Implemented manual pointer arithmetic handling for strict memory alignment requirements, with support for custom memory backends (dependency injection) for embedded use cases.

Other Notable Projects

csvview.h — C99 CSV Library

Single-file Header, MIT License

Personal Project
GitHub

Maths Interperator

Interperator, Python

Personal Project
GitHub

dsa-lib

Data Strucutre and Algorithms, Native C

Personal Project
GitHub

Hotel Room Tax System

Java Console Application

University Coursework
Score: 93% (High First-Class)

UK Road Performance Data System

Java Console Application / Agile

University Group Project
Score: 73% (First-Class)

Education

Liverpool John Moores University

BSc in Software Engineering

Liverpool, England
Est. Graduation: June 2028

Key modules: Control Systems, Data Structures & Algorithms, Embedded & Real-Time Systems, Database Systems, Physics & Mathematics.

- First Year: Achieved First Class.

Cronton Sixth Form College

A-Level Computer Science, Mathematics & Physics

Widnes, England
Graduated: June 2024

Relevant modules: Data Structures & Algorithms, Computing Systems, Databases & SQL.