

Experience

2024-05 **Software Developer** BG Automotive

Present

- Implemented stateless, secure authentication using JWTs stored in HTTP-only cookies, with access and refresh token rotation for session management.
- Implemented HTTP middleware in Rust using Redis as an intermediary cache layer, Server-Sent Events, and frontend Virtualization/Windowing to handle payloads 600 times larger.
- Developed a silent background process that monitors key presses and recognizes barcode syntax, triggering image capture from the warehouse CCTV system.
- Applied systems programming concepts, including mutex-based synchronization, to prevent race conditions and manage concurrent write operations.
- Used cron, the GNU coreutils, and git to create an automated deployment pipeline for various automated services.
- Deployed 10 containerized cloud applications optimized for resource efficiency, achieving reliable operation on a single low-tier cloud instance.

2024-03 **Volunteer Data Assistant** Bath Royal Literary and Scientific Institution

2024-05

- Used text-manipulation tools from the GNU coreutils such as awk and sed to process and clean existing tabular data.
- Interfaced with the `xlsxwriter` C library to programmatically generate non-trivial excel spreadsheets, such as spawning charts and extracting/including VBA macros.

Projects

Structure Preserving Encryption and Decryption johanyim/spead

- Practiced writing comprehensive manual pages man and command line flag validation using the `clap` crate.
- Intermediary between application and data repository such as an SQL Database
- Practiced writing Documentation
- Practiced writing tests
- Implements a module for response caching, which can be used in a variety of related projects

Education

2019-09 **Computer Science MComp (Hons)** Master of Computing, University of Bath

2023-05

Functional Programming (82%) - Machine Learning (77%) - Statistics for Data Science (73%) - Cryptography (78%) - Data Structures and Algorithms (82%) - Computer Systems Architecture (82%)

2017-09 **International Baccalaureate (IB)** King George V School, Hong Kong

2019-05

HL Maths (7) - HL Physics (7) - HL Computing (5)