# **Johan Yim** Software Developer

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### Experience -

## 2024-05 Software Developer BG Automotive

- · 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.

## <sup>2024-03</sup> Volunteer Data Assistant Bath Royal Literary and Scientific Institution

- 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

- Improved developer experience by enforcing command-line flag validation to prevent misuse.
- · Distributed CPU-bound parallel workloads to several threads to reduce the amount of time taken to encrypt and decrypt.
- Measured the performance using benchmarks using the criterion crate
- · Implements a module for response caching, which can be used in a variety of related projects

#### Education -

2019-09 Computer Science MComp (Hons) University of Bath

2023-05 Degree Class awarded: 2:1 Functional Programming (82%) - Machine Learning (77%) -Cryptography (78%) - Data Structures and Algorithms (82%) - Computer Systems Architecture (82%)

2017-09 International Baccalaureate (IB) King George V School

2019-05 39 points overall HL Maths (7) - HL Physics (7) - HL Computing (5)