

Jacob Mutton

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SKILLS

Languages: Rust | JavaScript/TypeScript | Java | Python | C | Bash | SQL | HTML | CSS
Technologies: Kubernetes | Docker | ReactJS | Redux | Node.js | VueJS | Firebase | Selenium
Other: Git | Google Cloud Platform | AWS | Raspberry Pi | Arduino | ESP32 | Visio | Jira

EDUCATION

Western University | GPA: 3.8 **London, ON** *Sept 2019 – Apr 2023 (Expected)*

Bachelor of Engineering Science, 4th year Software Engineering

- Dean's Honor List, Western Hyperloop, Western AI
- Western Hacks, U of T Hacks

PROFESSIONAL EXPERIENCE

Docker Specialist **Highmark Interactive** *Nov 2023 - Present*

- Set up and maintained a **Kubernetes** cluster for continuous integration and continuous deployment (**CI/CD**) of applications, improving the speed and frequency of application releases by **automating** the build, test, and deployment process.
- Provisioned **APIs** to **AWS** using **Docker** and **Docker Compose**, which improved the reliability and performance of APIs by allowing them to run in a consistent and isolated environment.
- Contributed to the development of internal **documentation** and guidelines for **Docker** and containerization processes, resulting in increased efficiency with both the containerization of new applications and the onboarding process of new team members.

Software Engineer **National Center for Audiology** *May 2022 – Sept 2022*

- Spearheaded the design and development of a **full stack** web application to automate data collection through a in-house hearing aid calibration library, appreciably advanced hearing aid research by **increasing actionable data collection by 500%**.
- Designed and implemented modular and reusable **RESTful APIs** with **Rust** to service requests and facilitate communication between the **VueJS** frontend application, and the **MongoDB** client.
- Implemented secure account creation using **SHA256** encryption, which ensures the reliability of the data sources and serves as a method to limit user **API** transactions.
- Re-engineered existing features in **DSLmio**, the leading hearing aid calibration library, in **Rust**. This allowed internal developers to safely maintain the codebase.
- Designed and set up a highly available and fault-tolerant **Kubernetes** cluster on 4 local computers to serve as a deployment for this project and future projects.
- Wrote expansive end-to-end tests using **Selenium** and unit tests in **Rust** to ensure stable and fault proof code.

PROJECTS

Parcade

Parking Services Application

- Worked with the product team to design and develop the user interface (**UI**) of the application using **React** and **Material-UI**.
- Developed a payment management system using the **Stripe API** to facilitate transactions between users.
- Developed the server-side of the application using **Node.js** and **Express.js**, and integrated it with the front-end using **REST APIs**.

Home Security System

https://github.com/jmutton2/pi_sec

- Designed and prototyped a wireless, modular home security system using **C** and **ESP32** (running **RTOS**).
- Constructed detailed design documentation using **Visio** based on user requirements, to ensure completeness and a swift development process.
- Utilized a hybrid peer-to-peer network architecture to efficiently handle various modules, including door sensors, surveillance cameras, keypads, alarms, and power outage detectors.