

Jacob Mutton

Software Engineering | jmutton2@uwo.ca | [linkedin.com/in/jmutton2](https://www.linkedin.com/in/jmutton2) | github.com/jmutton2

Skills

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

Education

Western University | GPA: 3.8 **London, ON**
Bachelor of Engineering Science, 4th year Software Engineering Sept 2019 – Apr 2023 (Expected)

- Deans Honor List, Western Hyperloop, Western AI
- Western Hacks, U of T Hacks

Professional Experience

Software Engineer **London, ON**
National Center for Audiology at the University of Western Ontario May 2022 – Sept 2022

- Spearheaded the design and development of a **full stack** web application to automate data collection through an 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

Home Security System **Personal**
https://github.com/jmutton2/pi_sec

- Designed and prototyped a wireless, modular home security system using **C** and **ESP32** development boards 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

Algorithm Teaching Game **Coursework**
<https://algorhythm-se3350-group-10.web.app/>

- Collaborated with a team of 7 to develop an application that teaches users about various programming algorithms using **React** and **JavaScript**
- Adapted promptly to constant fluctuating customer requirements utilizing the **Agile** methodology, reflecting adjustments in bi-weekly releases with support from **JIRA** software
- Implemented a backend database using **Firebase** to store and manage user gameplay information