Mercury Mcindoe

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Technical Skills

Languages: Java, Python, C/C++, SQL, JavaScript, TypeScript, HTML/CSS, SystemVerilog, Arm Assembly
Databases : MongoDB
Frameworks: React, Node.js, Flask
Developer Tools: Git, VS Code, PyCharm, Datagrip

Education

University of British Columbia Vancouver, BC
Bachelor of Applied Science in Computer Engineering, CGPA : 4.30/4.33 *Sept. 2021 – May 2025*

Experience

Software Developer Jan. 2024 – Present
UBC Uncrewed Aircraft Systems *Vancouver, BC*

- Tested client application for software connecting drone firmware with receiver using **Pytest** and **Poetry.**
- Utilized **Docker** for containerizing and deploying server environment for consistency along devices.

Mathematics Undergraduate Teaching Assistant Sept. 2023 – Present
University of British Columbia, Department of Mathematics *Vancouver, BC*

- Facilitating **Calculus I** and **Calculus II** discussions, enhancing comprehension for **200+** students.
- Enhancing student learning by dedicating **weekly office hours** (3 hours) to address individual student needs.
- Contributing to curriculum design by developing and grading assessments, measuring student proficiency.

Projects

LectureLink | *Node.js, Firebase, MongoDB* Jan. 2024 - Feb. 2024

- Engineered the backend, connecting students in similar courses, with **Node.js**, **Firebase**, and **MongoDB**.
- Devised server-side logic for course matching, boosting network efficiency, through the integration of **Node.js** and **email.js**.
- Streamlined course data management for UBC and SFU, yielding faster data retrieval, by employing **MongoDB** for data storage and caching.
- Implemented secure user sign-in and session management using **Firebase** authentication services.

Multi-Client Twitter Service | *Java, Object Oriented Programming* Nov. 2022 - Dec. 2022

- Built a **multi-threaded Java server** for real-time Twitter data processing, achieving high concurrency.
- Reinforced system security by applying salting and hashing techniques, alongside **AES** encryption.
- Optimized data retrieval with a **Java**-based caching solution, minimizing response times during peak network demands.
- Ensured service reliability through rigorous regression testing, maintaining system integrity and performance.

OS/161 Operating System Development | *C Programming, Operating Systems* Sept. 2023 – Dec. 2023

- Enhanced thread safety by implementing synchronization primitives, such as locks, **using C**.
- Extended kernel functionality by adding system calls (fork, execv, waitpid) and integrating a robust file system module, improving **process control** and **file management**.
- Optimized performance and stability in a multi-threaded environment using **GDB** for advanced debugging.

SQL Database Manager | *React, TypeScript, PHP, Oracle* Oct. 2023 – Dec. 2023

- Engineered a user-centric frontend interface, **akin to DataGrip**, to facilitate direct interaction with a visualized database, using **React** and **TypeScript**.
- Developed a platform for **graphical SQL query** execution, enhancing accessibility for users without coding expertise, using **PHP** and **Oracle**.
- Innovated click-and-toggle functionality for intuitive database operations, using **dynamic SQL query** crafting and dispatch.