

# Brian Hsu

## Software Engineer

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### TECHNOLOGIES

**Languages:** JavaScript, HTML, CSS, SASS, Python, C/C++, Microsoft SQL, JSON, Java, Scala

**Frameworks & Libraries:** ReactJS, Bootstrap, NodeJS, EmailJS, GSAP

**Database & Industry Tools:** Git, GitHub, GitLab, Linux

**Tools/ Software:** Visual Studio Code, Android Studio, Beagle Bone Arduino board, Figma

### PROJECTS

#### Extensible Hash Table

Jun 2023

<https://github.com/brianhsu305/ExtensibleTable>

- Designed and implemented a dynamically resizing extensible hash table in C++ that significantly improved performance by mitigating collisions and scaling gracefully.
- Enhanced C++ hash table with dynamic load balancing to ensure even distribution of keys across buckets, preventing performance degradation as the data grew.
- Optimized memory usage and resource management in the extensible hash table by implementing custom memory management in C++, minimizing fragmentation, and preventing memory leaks.

#### Light Dip Detector

Feb 2023

<https://github.com/brianhsu305/LightDipDetector>

- Developed a light sensor embedded system with C to analyze real-time light density data and displayed it on Zen Cape's 14-segment display hardware.
- Implemented multithreading structure in C to enable concurrency, including listening to UDP socket, data processing, and displaying updates.
- Created a command-driven system, allowing users to send commands through UDP sockets for specific action for data retrieval, enhancing user interaction and control.

#### Personal Portfolio

May 2021

<https://github.com/brianhsu305/portfolio>

- Designed a responsive personal portfolio using JavaScript, HTML, CSS, showcasing personal skills and projects while facilitating easy contact with visitors.
- Ensured an intuitive and responsive design, optimizing the portfolio for various devices and creating smooth navigation, resulting in an engaging and user-friendly experience.
- Integrated the EmailJS API into the portfolio's contact form, enabling secure and efficient communication with visitors, fostering inquiries about potential collaborations and job opportunities.

### WORK EXPERIENCE

#### Service Technician – Canada Computers & Electronics

Oct 2023 – Current

- Developed a ticket management system that streamlined the customer support process, reducing average response times by 30% and increasing customer satisfaction.
- Created scripts to automate computer demo setup process, reducing preparing demo time by 20% and ensuring stable and efficient systems after setting up.

#### Sales Associate - Canada Computers & Electronics

Aug 2022 – Oct 2023

- Collaborated with store manager and team members to create a system to separate the workload, enhancing the efficiency of daily operations.
- Created a system to effectively use the storage space by separating categories and ranking priorities, decreasing the time front workers required to allocate products from the warehouse.

### EDUCATION

Simon Fraser University, Burnaby, BC

Sep 2017 – Oct 2023

Bachelor of Computer Science

### ACTIVITIES/ INTERESTS

Basketball, Fitness, Snowboarding, Tech, PC building, Puzzles