Allan He-Chen

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Education

Toronto Metropolitan University   Toronto, Canada
BSc in Computer Science   Exp. May 2025

- **GPA:** 4.23/4.33
- **Relevant Courses:** Data Structures and Algorithms, C Programming, Linear Algebra, Software Engineering, Web Systems Development, Unix Operating Systems
- **First-year Computer Science Award:** Highest grade in Computer Science Courses

Experience

Ontario Power Generation   May 2023 - Dec 2023
Supply Chain Computer Developmental Co-op

- Built a threaded database query program using the Python libraries pyodbc and openpyxl, reducing processing time from hours to minutes by generating efficient queries for a database with millions of rows.
- Created a web scraper in TypeScript to collect data for over 2500 orders, leading to a reduction in workload equivalent to the efforts of five team members and saving tens of hours of time for the team.
- Dissected legacy programs and re-implemented them using Python, speeding up processing time by 200% and added new functionality.
- Combed through system documentation to understand underlying database schema to build groundbreaking Excel reports, presenting unique ways of representing data and savings exceeding $500,000.

Projects

allanhechen.me Server Stack 🔗   May 2023 - Present
Unix services and web server

- Configured and administered Linux Server infrastructure, overseeing system configuration, software installation, security updates, and performance optimization, ensuring reliable and secure operations for critical applications.
- Integrated CI/CD pipelines with Gitea.
- Utilized Docker to containerize web applications, enabling streamlined deployment, scalability, and easy management of dependencies, resulting in many applications hosted on the same system.

Linux Program Scheduler   May 2023
Process scheduler built in C

- Utilized C's implementation of Unix message passing to implement various scheduling techniques and inter-process communication.
- Implemented semaphores to ensure that only a single thread executes during critical sections of this multi-threaded application.

StockBeansJava   Nov 2022
Object Oriented Java-based stock viewing app

- Designed and implemented a Java stock viewing app utilizing UML best practices and object oriented programming.
- Created and executed a relational database schema to track user logins, saved stocks, and simulated stock trading.
- Utilized web APIs to gather real-time stock information according to user input.

Skills

Languages   Python, Java, C, HTML, CSS, JavaScript, TypeScript, SQL
Tools   Docker, Git, Node.js, Express, Excel, Access, ODBC Databases, Power BI, Linux, REST APIs, OOP