

Jacob Situ

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Objective

Enthusiastic and detail-oriented Computer Science student with a strong foundation in algorithms, data structures, and system programming. Eager to apply my knowledge of programming languages, software development, and problem-solving to real-world projects in a challenging internship setting.

Education

University of Calgary, BS in Computer Science, GPA: 3.94/4.0 Sept 2022 – May 2027

- **Coursework:** Computer Architecture, Operating Systems, Data Structures and Algorithms, Multivariable Calculus, Probability, Linear Algebra, Machine Learning, Software Engineering, Programming Paradigms

Experience

Garden Centre Clerk, Real Canadian Superstore – Calgary, AB April 2022 – July 2023

- Demonstrated strong problem-solving skills by managing customer inquiries and order fulfillment under tight deadlines.
- Coordinated with team members to ensure efficient stock management and customer service.
- Utilized organization and communication skills to maintain a clean and well-stocked environment.

Projects

Page Replacement Algorithms Simulator (2024)

- Implemented FIFO, LRU, Optimal and Second chance page replacement algorithms with an emphasis on optimizing performance and efficiency when simulating memory management
- Conducted experiments to analyze and visualize the effects of varying frame counts on page faults and write-backs across algorithms.
- Tools Used: C, Excel

Distributed-Shared Memory Multiprocessor (2024)

- Developed a multi-threaded simulator to model a DSM multiprocessor implementing Peterson's Algorithm and Token Rings as synchronization measures to manage the critical section problem
- Implemented a multi-threaded UDP server for inter-process communication while simulating real world delays and system behaviors
- Analyzed the efficiency of the implementation with an increasing number of processors and the effects on throughput
- Tools Used: Java, Excel

Technical Skills

Programming Languages: C++, C, Java, Python, SQL, Assembly

Tools & Technologies: Linux/Unix, Git, Pandas, PyTorch, VS Code, Eclipse

Software: Microsoft Word & Excel

Honors & Scholarships

Jason Lang Scholarship, University of Calgary - 2024, 2023

Dean's List, University of Calgary - 2023, 2022

Alexander Rutherford Scholarship, University of Calgary - 2021