Matthew T. **Mullen**

SOFTWARE ENGINEER

808-10823 Jasper Ave, Edmonton, Alberta, Canada, T5J0J5

(587)-987-1826 | mtmullen@ualberta.ca | Matthew-Mullen.github.io | Matthew-Mullen | Matthew-Mullen

Education

University of Alberta   *Edmonton, Alberta, Canada*

BACHELOR OF SCIENCE HONOURS IN COMPUTER SCIENCE   *Sep. 2018 - May 2022*

- 3.4/4.0 GPA

Skills

Programming	Proficient with Python, C++/C. Experience with Java, RARS, LaTeX, Git, and Linux
Languages	Fluent English, Beginner Vietnamese

Experience

Citi   *Mississauga, Ontario, Canada*

SOFTWARE ENGINEERING INTERN   *May 2021 - August 2021*

- Global Spread Products Team
- Responsibilities include: building Continuous Integration / Continuous Deployment Automation framework to support trading applications, building Microsoft Outlook plugin to automate the process of sending followup emails and tracking responses, building a smart portfolio management application, as well as providing consultative, architectural, and engineering support for the application team.
- Technologies : Java, Python, C Sharp, SQL, Bash, Linux, JavaScript

Projects

File / Directory Monitor   *Edmonton, Alberta, Canada*

PERSONAL PROJECT   *February 2021 - March 2021*

- Designed and implemented a multithreaded client / server application that monitors any kind of file/directory change, creation or deletion in C.
- Observer client monitors file/directory for changes, sends those changes in a serialized format to the server, and then using concurrency control methods, the server periodically reads and deserializes the most recent data for each Observer client from a custom data structure and sends to the User client for display.

Working Set Simulator   *Edmonton, Alberta, Canada*

PERSONAL PROJECT   *March 2021*

- Designed and implemented a working set simulator that scans the output of Valgrind to determine the number of unique pages being accessed within a given time interval throughout the duration of a process in C.
- Utilizes a seperate chaining hashtable to represent the working set and outputs data to gnuplot for analysis.

Crowd Sourced Experiment Trial Application   *Edmonton, Alberta, Canada*

PERSONAL PROJECT   *January 2021 - April 2021*

- Designed and implemented an Android application in Java that allows user's to create, upload, modify, produce results for, and publish experiments to a database.
- User's are able to browse and participate in their own experiments, along with other experimenter's experiments.

Signal Handler   *Edmonton, Alberta, Canada*

PERSONAL PROJECT   *January 2021 - February 2021*

- Designed and implemented a signal handler in C to scan the entire address space of a process to determine read/write permissions for any given page.

Hollow Heap Implementation   *Edmonton, Alberta, Canada*

PERSONAL PROJECT   *November 2020*

- Implemented a Hollow Heap based off of a research paper in C.
- Benefits of Hollow Heap implementation include constant time insert, find min, and reduce key operations.