Sam Burke

(226)-505-1724
s8burke@uwaterloo.ca
https://www.linkedin.com/in/sam-burke-uwaterloo/
https://github.com/Sam-Burke325

Biomedical Engineering Student

Summary of Qualifications

- Proficiency in **C#** using **.NET** and **C++** through a multitude of projects developing databases as well as board and math games such as Kakurasu and Yahtzee; developing strong fundamentals in **JavaScript** and **MATLAB**
- Adept understanding in **object-oriented programming** and **programming principles** such as **ADT design** to develop clear and functional code
- Strong knowledge of **software testing** and **test-driven development** through debugging multiple ADT databases
- Firm **analytical skills** developed from the establishment of algorithms using multiple different ADTs such as BSTs
- Demonstrated professional **written** and **oral communication, customer service** and **collaboration skills** through part time work as a retail operations specialist

Relevant Projects

Drone Database

- Created a program to manage drone data using linked lists and object classes in C++
- Integrated methods to search, sort, insert and remove drone data based on drone ID, focusing on efficient run times and space complexity
- Designed drivers to conduct boundary value analysis to assure the database effectively ran as intended

Task Item Storage System

- Developed a program which sorts, searches, inserts and removes task item data including a description of the task and its priority in C++
- An AVL tree was built to store and sort each task item to maintain logarithmic run time
- Utilized assertions and drivers to conduct black box testing to ensure the program was running correctly

Game Development

- Designed methods for rolling and storing dice values and used such values to calculate points in Yahtzee in C#
- Created functions to allow for the display and supervision of game board states in Kakurasu as well as calculate and track points in C#

Technical Skills

C#

- Developed board games, namely Yahtzee and Kakurasu, as well as developed databases to store medical data

C++

- Designed a BST database to store drone information, an artwork storage algorithm and a polynomial calculator
- Developed an AVL tree to store, search, insert and remove task items based on numerical priority

JavaScript/MATLAB

- Self-taught: Basic syntax and operations
- Developed epidemic curves using differential equations to graph COVID-19 using a SIR model
- Rewrote databases and algorithms into JavaScript

Other

- Documentation skills using Microsoft Office (Word, Excel etc.)

Work Experience

Retail Operations Specialist | *Best Buy   Oct. 2018 – Aug. 2019*

- Developed thorough customer service experience and customer satisfaction skills by connecting with customers during sales and interactions at customer service desks
- Used strong communication skills to increase sales and client relations, including rectifying customer complaints

Interests

- Composing and Performing Instrumental Guitar Music and Singing
- Musical Theatre

Education

University of Waterloo, Waterloo ON
September 2019 – April 2024
Honours, Biomedical Engineering student and candidate for Bachelor of Applied Science (BASc)

- Recipient of the **President's Scholarship**, received by students with an entrance average of 90-94%
- WHIMIS Certification (2019)
- ESMS Certification (2019)