Shushama Tahsin

(778) 928 4798

shushama.tahsin@gmail.com

Professional Skills and Abilities

Computer Science / Software Engineering

- Developed and executed comprehensive test methods to ensure accurate outputs for expected inputs, with a particular focus on handling edge cases.
- Identified and debugged issues by analyzing error and warning messages, employing debugging tools to pinpoint the root causes of problems.
- Acquainted with C++ programming concepts, including constructors, destructors, copy constructors, move constructors, and copy assignment operators ensuring efficient resource management and memory handling.
- Demonstrated strong proficiency in common programming constructs, including loops, functions, templates, operator overloading, and recursion, to implement efficient and elegant code solutions.
- Applied problem-solving skills using C++ and C# to tackle various challenges, increasing familiarity with these widely used programming languages.
- Designed and implemented methods for reading from and writing to XML and JSON files, enabling programs to efficiently store and manage large volumes of data in an organized external source.
- Utilized GitHub for version control, including branch management, to facilitate collaborative software development and seamlessly work with team members to achieve project goals.

Data Structures and Algorithms

- Applied a variety of search algorithms, including linear search, binary search, and A* pathfinding, to efficiently retrieve data and navigate complex systems.
- Demonstrated expertise in sort algorithms, including quicksort, mergesort, and bubble sort, to optimize data organization and improve system performance.
- Studied implementations of static arrays, dynamic arrays (vectors), linked lists, stacks, queues, priority queues, hashmaps, Binary Search Trees (BST), and AVL Trees in C++.
- Utilized a C# dictionary to efficiently store and retrieve large volumes of game item data, optimizing time complexity for improved game performance.
- Implemented the A* pathfinding algorithm to guide non-player characters (NPCs) in a base-building game.

Object-Oriented Programming

- Proficient in Java and C#, two widely used programming languages for building versatile software applications.
- Implemented accessors and mutators (getters and setters) to control access to class

members and maintain data encapsulation.
- Proficient in using lambda expressions for functional programming aspects within Java applications, such as event handling and callbacks.
- Utilized generics to create flexible and reusable code components.
- Implemented event handling in graphical user interfaces (GUIs) and animations using JavaFX.

Game Development (C# and Unity)
- Designed and developed a virtual pet simulation with dynamic needs and mood animations to provide an interactive and engaging gaming experience.
- Introduced a job system, incorporating the A* pathfinding algorithm for NPC navigation, and integrated decision-making algorithms to create intelligent game AI.
- Implemented a 2D platformer movement system in Unity, allowing for smooth and responsive character controls in platformer games.
- Implemented a simple enemy behavior tree, enhancing the behavior and decision-making processes of in-game adversaries.
- Produced pixel art assets for game characters, objects, and environments, contributing to a visually cohesive and charming game aesthetic.
- Created enemies for a bullet hell-type game with a variety of shooting patterns, adding complexity and challenge to the gameplay.
- Developed a 2D combat system with both melee slashing and ranged shooting abilities, providing players with diverse combat options and enhancing gameplay depth.
- Developed a classic Minesweeper game with randomly generated mine placements, challenging players to strategically identify mine locations by analyzing adjacent tile information
- Introduced a dynamic day/night cycle and seasonal variations for enhanced immersion in game environments.
- Leveraged Perlin noise to procedurally generate 2D and 3D maps, providing diverse and visually appealing landscapes.
- Employed an object pooling system for efficient resource management and improved game performance.

Web Development
- Created dynamic web pages and websites using HTML, CSS, and Javascript.
- Deployed websites to remote web servers, ensuring universal browser accessibility.
- Used Javascript canvas and event handlers to implement player movement on a web based game.
- Utilized fetch requests to post and get data to and from the backend API.
- Participated in the cmd-f hackathon, collaborating with a team of 4 to build a social

studying app that communicates with Co:here's API using React and CSS.
- Won second place at Langara Hacks 2023 with a web game that utilizes React and Material UI for the frontend to create an engaging prompt and image generation chain game experience.

Database Management
- Employed SQL in Microsoft SQL Server to perform critical database operations, including adding, removing, and updating records.
- Proficient in database management using SQL, with a strong grasp of database design, querying, and administration, ensuring organized and efficient data storage and retrieval.
- Demonstrated expertise in SQL database modeling, including the creation of tables, indexes, and relationships, contributing to well-structured and normalized database schemas.
- Maintained user info and game info in a MongoDB database for a productivity app.

Unix Scripting
- Utilized Bash and Python scripting to automate routine tasks, enhance system efficiency, and streamline administrative processes.
- Skilled in command-line operations and text processing, leveraging Unix shell scripting to manage files, directories, and data within a Unix-based environment.
- Demonstrated expertise in shell programming, encompassing the utilization of conditional statements, loops, functions, and variables in Unix shells to develop custom solutions and automate repetitive processes.
- Proficient in regular expressions for effective pattern matching and text processing, improving data extraction and manipulation capabilities.

IT and Networking
- Passed CompTIA A+ Core 1 certification with plans to take the Core 2 exam to further advance IT and networking skills.
- Configured a new laptop to be able to scan and print over the network printer.
- Maintained the correct credential on a computer to enable it access to the shared files of another computer on the network.
- Solid foundation in networking fundamentals, encompassing a comprehensive understanding of network protocols, topologies, and hardware components, facilitating effective communication and collaboration within networked environments.

Teamwork and Communication
- Informed all coworkers of any schedule changes by immediately contacting them to ensure that all employees are up to date and able to perform their tasks as needed.

- Interviewed new patients by asking the appropriate questions clearly and concisely to obtain all needed information.
- Provided friendly and efficient service to all customers by accurately recording their orders to maintain company standard.
- Participated in hackathons in groups of four to efficiently complete projects.

Motivated to Learn
- Audited computer science focussed courses such as computer networking, cybersecurity, and neural networks on Coursera and Udemy to learn about various topics.
- Solved over 50 problems on Leetcode using Python, C, C++, C#, and Java to increase knowledge of important algorithms.
- Practiced problems on picoCTF, OverTheWire, and other online platforms focussed on cybersecurity on both Windows and Linux Mint operating systems to gain familiarity with the command line.

Work Experience

Fraser Dental Center, Vancouver, BC   **September 2019-Present**
Receptionist
- Managed institution schedule using ClearDent software to provide appointments for up to 8-10 patients per day to present seamless service to those that need it.
- Trained a new employee for reception through observation, explanation, and acting out possible scenarios to ensure that they are prepared to successfully operate the front desk and handle situations that arise during work.
- Contacted insurance companies directly over phone in regards to late or missing payments every month to stay up to date on receivables and ensure that all payment is collected in due time.
- Maintained large volumes up-to-date records on all patients' medical history by asking the required questions to be able to alert the dentist to any issues that may require special attention.
- Coordinated referrals to specialists by passing on all relevant information to the appropriate institution through phone or email so that patients can easily and promptly receive an appointment for their needed treatment.
- Adapted to the needs of the clinic by completing miscellaneous tasks such as creating a poster using Photoshop, creating pay stubs for employees, and questioning potential new employees to allow for the institution to operate smoothly.
- Configured a new laptop to be able to scan and print over the network printer.
- Maintained the correct credential on a computer to enable it access to the shared files of another computer on the network.

Shushama Tahsin

(778) 928 4798
shushama.tahsin@gmail.com

Mcdonald's, Vancouver, BC   **March 2015 - December 2015**
Cashier
- Frequently assessed store inventory and alerted managers of low stock to ensure availability of products as needed.
- Efficiently communicated with customers to provide service with accuracy to maintain company standard.
- Managed multiple tasks such as recording orders, making drinks, and dispensing food to ensure customers receive the service of their need at an appropriate speed.

Education

Langara College, Vancouver, BC   **September 2022-Present**
Associate of Science in Computer Science

University of British Columbia, Vancouver, BC   **September 2016-June 2022**

Affiliations and Credentials

- Fluent in written and spoken Bengali
- CompTIA Network+ certified
- Passed CompTIA A+ Core 1 and currently studying for Core 2