Sahba Hajihoseini

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Technical skills

- **Languages:** C, C++, C#, Java, JavaScript, HTML, CSS, Python, R, SQL
- **Software:** Git, MATLAB, Figma, AWS, MongoDB, Latex, Unity3D, Wireshark, VirtualBox, Visual Studio, IntelliJ, Android Studio, Xcode
- **Framework / libraries:** React, Express, Node.js, Angular

Non-Technical skill

- Communication and teamwork skills acquired from working on multiple projects in CMPT classes
- Management and organizing skills accomplished through supervising and managing multiple events as a marketing assistant
- Strong problem solving and analyzing skills developed through coursework and personal projects

Project experience

In Bloom (Semester in Alternate Realities 2023, SFU)   May – Jun 2023
- Engineered an intelligent game agent, using C# and Unity's NavMesh system
- Utilized principles of machine lsearning to develop the adaptive behavior of the AI companion, leading to enhanced player-AI interactivity and augmented gaming experience.
- Designed and implemented a sophisticated state-transition system enabling the AI to participate in puzzle-solving activities, thereby providing an additional layer of complexity and engagement to the gameplay.
- Applied rigorous game design methodologies to calibrate AI behaviors, ensuring an optimal blend of technical functionality and player enjoyment

Database application (Database Systems - CMPT354, SFU)   May – Aug 2022
- Created a language learning application which benefits from a database
- Modeled ER diagram, implementing the schema for the database and used SQL DDL to create all the tables in SQL
- Utilized the MERN stack, with MySQL substituted for MongoDB, making the stack MySQL, Express.js, React.js, and Node.js
- Created a Graphical User Interface with buttons to run the queries

◆ **Chatbot** (Operating Systems - CMPT300, SFU)   May – Aug 2022
- Designed a chat facility that enables a user at one terminal to communicate with a user at another terminal
- Implemented keyboard input, sender, receiver, and console output thread to make the program operate more efficiently
- Built a fixed encryption key by increasing each character by key before sending decreasing each character at the receiver side by key
- Developed test cases to validate the connection status for both users by running it on either user's side

◆ **Cshell** (Operating Systems - CMPT300, SFU)   May – Aug 2022
- Developed a command-line interpreter supporting the environment variables for Linux in C which supports basic shell functionalities
- Designed a shell that would support four built-in commands and other non-built-in command
- Programmed the code to support both interactive mode and script mode

◆ **Arcade-style game** (Introduction to Software Engineering - CMPT276, SFU)   Sep – Dec 2021
- Designed, implemented, tested, and evaluated an arcade-style 2D game where the player controls the main character from the start point to the end point through barriers in Java
- Created a set of use cases that describe the behaviour of the system from a player's perspective
- Developed mock-ups of the system's user-interface and UML diagrams for the main components of the system
- Programmed unit and integration tests for the game, focusing on both the coverage and quality of the tests

Employment

Marketing Assistant, Artemis Farmanieh, Tehran, Iran   May – Aug 2020

- Organized events for a shopping mall and assisted with promotional activities, which increased the customer count
- Analyzed the attendee report of the events allowing the marketing team to have a better understanding of their target customers

Education

Simon Fraser university   BC, Canada

Bachelor of science – Major in Computing science   Sep 2020 – Present