

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:** PyTorch, 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 learning 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

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- ◆ **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