Jason Hoang

jasonbuihoang@gmail.com | linkedin.com/in/jbhoang | www.jbhoang.com | github.com/JBHoang

Education

- **Simon Fraser University -** Bachelor of Science, Major in Computing Science August 2021

Experience

Junior Software Engineer – MDA Space July 2022 – September 2022

- Coded warning alerts for pilots within 5000 feet of an obstacle during landing with 100% detection accuracy
- Replaced and refactored existing legacy C++ software used to create flight procedures and charts for the US Air Force and Nav Canada reducing redundancy by 20%

Projects

Pacman Arcade Game – Unity, C# December 2024

- Coded and implemented C# script to control Pacman, ghost, animation, and audio
- Developed 4 behaviours states for ghost's AI where the ghost shatters, chases, spawns or flees
- Implemented the audio for the introduction music, background music, eating pellets, eating ghosts, and dying
- Animated Pacman eating, Pacman moving, ghosts chasing and ghost fleeing

Donkey Kong Arcade Game – Unity, C# November 2024

- Coded and implemented C# script to control player physics movement, barrel spawning and loading 3 unique levels

Minesweeper Puzzle Game – Depth First Search – Unity, C# September 2024

- Coded and implemented C# script to change board size, generate mines, flag mines, and reveal tiles
- Coded a depth-first search recursive flood fill algorithm for revealing all adjacent empty tiles

Tic Tac Toe Game – Monte Carlo Tree Search – Python June 2024

- Coded and implemented an undefeatable AI using Monte Carlos Tree Search
- Developed AI to simulate 5000 random games each turn to determine the best move

Asteroids Arcade Game – Unity, C# May 2024

- Coded and implemented C# script for player spaceship movement, missile projectiles, player respawning, asteroid spawning, score keeping and main menu options
- Implemented the random spawning of asteroids every 2 seconds in a radius of random sizes

Flappy Bird Mobile Game – Unity, C# March 2024

- Coded and implemented C# script for player movement, player respawning, flight animation, random pipe generation, score keeping and main menu options

Pong Arcade Game – Unity, C# February 2024

- Coded and created 3 AI difficulties called Easy, Medium and Impossible resulting in a player win rate of 50% to 0%
- Coded C# script for player paddle movements, AI logic, pong ball movement, and score keeping
- Integrated Unity 2D Physics Engine's rigid body detection and collision detection for the paddle and pong ball

Snake Arcade Game – Unity, C# December 2023

- Coded and implemented a 100% playable snake game allowing for movement, collision detection and snake growth

Technical Skills

- **Languages:** Python, C, C++, C#, SQL, HTML, CSS, JavaScript
- **Databases:** MongoDB, PostgreSQL
- **Framework/Tools:** Linux, VS Code, Unity, Git, Jira, NumPy, Pandas, Agile/Scrum, MATLAB, LabVIEW, React