Jason Hoang

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Education

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

Experience

Software Developer (Contractor) – Indie Games Startup LLC February 2025 – Present

- Developed character profile UI in Unreal Engine 5, integrating a dynamic sliding health bar using C++ and Blueprints for real-time health visualization
- Implemented interactive buttons to modify character health, displaying health and damage indicators text

Junior Software Engineer – MDA Space July 2022 – September 2022

- Developed and deployed real-time flight warning systems in C++, detecting obstacles within 5,000 feet with 100% accuracy, ensuring compliance with FAA safety regulations
- Refactored 3,000+ lines of legacy C++ code, optimizing performance by 20%, reducing memory usage, and improving execution time for flight procedures
- Participated in debugging and defect tracking processes to improve software reliability

Projects

Tetris Arcade Game – Unity, C# March 2025

- Implemented core game mechanics, including movement, rotation, gravity, line clearing, scoring, and hard drops
- Designed and executed comprehensive test plans, including functional, regression, and manual playtesting, ensuring a high-quality game experience
- Identified, documented, and tracked bugs using Jira

Pacman Arcade Game – Unity, C# December 2024

- Developed AI-driven ghost behaviours (chase, scatter, flee) for an interactive game environment
- Integrated 2D animations and physics-based collision detection for smooth gameplay
- Implemented complete audio systems, including music, sound effects and dynamic feedback

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

- Developed a scalable Minesweeper Game with dynamic board resizing, randomized mine placement, and interactive user input handling
- Implemented a depth-first search (DFS) flood fill algorithm, effectively revealing adjacent empty tiles in O(n*m) time complexity, improving game responsiveness

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

- Implemented Monte Carlo Tree Search AI in Python, simulating 5,000+ games per turn to achieve 99.9% win rate, demonstrating advanced search algorithms used in real-world decision-making AI

Technical Skills

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