

Runze Zhu

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EDUCATION

Bachelor of Computer Science, *Concordia University*

Sep 2019 – May 2023

- Dean's List 2020-2021
- Member of **Concordia Game Development Club**
- Relevant Courses: Advanced Program Design with C++, Data Structures and Algorithms, Introduction to & Advanced Game Development, Computer Graphics, Artificial intelligence

Montreal, QC

SKILLS

C++, C#, Python, Unreal Engine 5, Frostbite Engine, Unity, Perforce, Visual Studio, JetBrains Rider, Git, OpenGL

PROFESSIONAL EXPERIENCE

Gameplay Programmer Intern (Iron Man Game), *Motive Studio* ↗

Jan 2022 – Aug 2022

- Used **Gameplay Ability System** to implement health, shield, and combat resources system in **C++**, **Blueprint**, and **Unreal Engine 5**.
- Used **Entity Component System** to implement features like hit detection, finisher resources in **C++**, **Schematics 2**, and **Frostbite Engine**.
- Created simple **UI** in **Unreal Engine 5** and **Frostbite Engine**.
- Worked with gameplay designing team to implement gameplay features.
- Wrote **Confluence** documents to explain existing systems and features.

Montreal, QC

Automation Software Developer Intern, *Matrox Graphics*

Sep 2021 – Dec 2021

- Developed **Perl** scripts for reporting.
- Used **Perl** and **C#** to assist IC designers by developing scripts and analysis tools.

Dorval, QC

PROJECTS

Space Rides ↗

Jan 2023 – Apr 2023

- Developed a space combat game using **Unity Engine** and in a team of 3
- Implemented **A* algorithm** for AI pathfinding in **C#**.
- Created **AI Steering Behaviors** in **C#**, including wandering, chasing, and evading.
- Implemented AI decision-making by creating a **behavior tree**.

Warzone Game ↗

Sep 2022 – Dec 2022

- Developed a Risk-style game titled Warzone using **C++** and **STL** in a team of 5.
- Used **state machine** to create a simple game engine.
- Utilized the **MVC Architecture** and the **Observer Pattern** to log game info.
- Used **Adaptor Pattern** to let game engine read command from both console and file

Imminent, *Ubisoft Game Lab Competition 2022* ↗

Jan 2022 – Apr 2022

- Created a roguelike deck-building game using **Unity Engine** in a team of 8.
- Created a prototype with grids and cards automatically attached to the grid in **C#**.
- Added **Firestore database** and **LootLocker** support to the game, and created an online discussion board feature.
- Nominated for **Best Game Design** and **Best Art Direction and Production**.

Super Hyper Cube ↗

Aug 2021

- Created a playable game where the player controls a cube to pass through a wall using **OpenGL** and **C++**.
- Programmed shaders for models, lighting, and shadow, and used hierarchical modeling to create models.
- Imported third-party libraries like **FreeType**, **ImGui**, and **Assimp** to render texts, GUI, and external models.