

Hi! I'm a game developer who loves bridging the gap between **technical and creative** fields. I enjoy creating things that **make people excited**, whether they're playing with my game mechanics, using my tools, or working with my code.

Profile & Skills

- Quick learner who enjoys picking up skills to explore new problem spaces.
- A variety of game development experience ranging from mods to indie to AAA.
- An eye for polish: maintainable code, user-friendly tools, and satisfying game feel.
- Loves to work with multidisciplinary teams on creative projects.

Languages:

C++, C#, C, Python, Dart, HLSL

Tools:

Unreal Engine 5, Unity, Flutter, Visual Studio, Android Studio, Git, Perforce, Linux

Education:

B. Sc. Specialization in Computing Science
University of Alberta (2012-2017)

Work/Volunteer Experience

Juvenile Pursuits Inc.

Dec. 2021 – Present

Owner / Freelance Software Developer

- Worked directly on Unreal Engine 5 for Epic Games via a subcontract through GeoTech Ltd.
 - Fixed bugs in and added core features to Unreal Engine 5 (UE5).
 - Built *Unreal Stage*, an official iOS app for remotely controlling UE5 (see next page).
 - Managed another app developer, reviewing his code and providing direction.
- Developed *Tumble Rush*, a mobile game launching in late 2023 (see next page).
 - Managed a handful of freelancers while handling the majority of the project's development alone, including programming, design, art, UI, and sound effects.

Improbable Canada

Oct. 2019 – Oct. 2021

Gameplay Programmer

- Built and owned gameplay systems and tools for *Nightingale* (see next page).
- Quickly picked up Unreal Engine 4 (UE4) and delivered a robust, flexible AI system in my first two months.
- Extended UE4's built-in automated testing tools to let us verify client/server interactions.

BioWare

Sept. 2017 – Sept. 2019

Gameplay Programmer

- Joined as a Software Engineer I; promoted to Software Engineer II in early 2019.
- Owned several gameplay systems on *Dragon Age: Dreadwolf* (see next page).
- Helped to coordinate code convergence and gameplay system development across projects.

University of Alberta

Sept. 2014 – Apr. 2015

Executive Producer (CMPUT 250)

Sept. 2016 – Dec. 2016

- TA position – worked closely with teams of students building games to help them maintain a reasonable project scope.
- Provided feedback on gameplay prototypes and helped to keep teams on schedule.

Featured Projects

Tumble Rush 2020 – Present

- Developed mostly **solo**, with occasional freelance collaborators.
- Designed **shaders** for an efficient art pipeline and **custom physics code** to enable unique, tilt-based gameplay.
- 4.7 star user rating in soft launch.

Dragon Age: Dreadwolf 2017 – 2019

- Designed and implemented a new gameplay system to **reduce code duplication**, increase **flexibility of designer tools**, and **speed up iteration time**.

Anthem 2017 – 2018

- Miscellaneous bug fixes and improvements to designer-facing debugging tools.

Gemma's Great Gambit 2017

- Built from the ground up using **Unity/C#** with a team of 6 for a school course.
- Acted as **sound designer** and **musician**.
- Implemented and polished a number of game mechanics including **collision shape slicing** (detailed in my portfolio).

The Day I Died 2012

- School project with a team of 6, where I acted as lead programmer, lead designer, and sound designer.
- Stealth-action game built through **clever use of *Neverwinter Nights'* modding tools**.
- Nominated in all categories and won Game of the Year and Technical Achievement awards at the year-end ceremony.

Drillboid 2011

- Two-person project (myself and an artist) made with **Unity/JavaScript** for a contest.
- Implemented **procedural cave generation** and custom **player physics/controls**.
- Placed in the contest's top 10 entries and was featured as a staff pick on Kongregate.

Unreal Stage 2022 – Present

- Delivered an official iOS app for Epic Games **from scratch**.
- Worked with UI designers at Epic and **iterated** based on user feedback.
- Implemented **networking** protocols in both **C++** (UE5) and **Dart** (Flutter) for smooth, responsive control.

Nightingale 2019 – 2021

- Designed and implemented a utility-based **AI** system with an **easy-to-use** Blueprint interface for designers.
- Based on feedback from both designers and programmers, continuously improved the system's **flexibility** and **efficiency** while **maintaining** its ease of use.
- Tackled complex **networking** problems in UE4 and SpatialOS.

Magnaut 2014 – 2017

- Built an open-source **ECS game engine** from scratch using the SFML media library.
- Implemented continuous 2D **collision detection** and **replay compression** algorithms (detailed in my portfolio).
- Focused on **documentation** and thorough **unit testing**.

StarCraft Bot 2014

- School project with a team of 4.
- Implemented effective strafing-based **combat AI**.
- In a tournament run at the end of the course, ours was the highest-ranked bot for our faction and won an award for the **most stable code**.

Gravity Garden 2010

- Wrote the **game engine** alone in C++ using the SDL media library.
- Designed game mechanics, produced puzzles, created graphics and wrote dialogue.
- Featured in *Domashny PK* magazine and on the *Jay is Games* website.