# DANIEL MACCORMICK, C# & C++ Game Developer

dmaccormick@hotmail.com
www.danielmaccormick.com
www.github.com/dmaccormick
www.linkedin.com/in/daniel-maccormick
Halifax, Nova Scotia, Canada

**C# & C++ Game Developer**

C# and C++ software engineer with 4.5+ years of professional experience shipping games, tools, and live production systems in C# using Unity and proprietary engines. Strong foundation in C++, including custom ECS engine design, gameplay, and data-driven progression systems. Experienced collaborating across disciplines to prototype, iterate, and release features. Highly motivated to extend C++ skills by contributing to performance-focused, large-scale gameplay environments.

## TECHNICAL SKILLS

**Languages:** C++, C#, Python, JavaScript, HTML/CSS, SQL
**Engines & Graphics:** Unity (4.5+ years professional), proprietary engines, Unreal Engine
**Core Competencies:** Gameplay logic, quest & progression systems, owning features through life cycle, AI state machines, ECS design, data-driven architecture, debugging & optimization
**Source Control:** Git, SVN, Plastic SCM, Mercurial
**Other:** Shader development (GLSL), asset pipeline tooling, JSON/XML data handling

## EDUCATION

**Master of Computer Science** **May 2019 - April 2021**
Ontario Tech University, Oshawa, ON

- Specialization in Digital Media with a published written thesis and research project
- Awarded **Canada Graduate Scholarship (CGS)** & **Ontario Graduate Scholarship (OGS-M)**
- Graduated with perfect cGPA of 4.3 / 4.3

**Bachelor of Information Technology (Honours)** **September 2015 - April 2019**
Ontario Tech University, Oshawa, ON

- Minor in Game Programming
- Graduated summa cum laude with cGPA of 4.13 / 4.3
- Awarded **Best 3rd Year Game** and **1st Place Capstone Project**

## WORK EXPERIENCE

**Game Developer,** All Out **April 2025 - Present**

- Develop and ship commercial multiplayer C# games in a proprietary cross-platform engine
- Take full ownership of projects from design through release and live maintenance
- Implement finite state machines for AI agents resulting in engaging enemy behaviour
- Architect quest mechanics, progression, and save/load systems to maintain player state
- Optimize performance-critical gameplay to ensure responsiveness across devices

**Lead Programmer / Co-Founder,** Rubber Ducks (Independent Studio) **May 2020 – Present**

- Lead gameplay system architecture and implementation from prototype through polish and public release across multiple shipped indie titles (itch.io & Armor Games)
- Design and build Unity editor tools to accelerate content iteration for designers
- Plan production milestones and manage Git source control to ensure stable releases
- Mentor other programmers and conduct code reviews to maintain clean, scalable systems

**Software Developer,** DoubleJump Games **May 2023 - April 2025**

- Built and maintained networked C# systems in Unity within a live production environment
- Took ownership of feature life cycles from planning to release within rapid iteration cycles
- Performed live debugging and troubleshooting in high-visibility production scenarios
- Contributed features to large shared codebase with clean Git history and documentation

**Gameplay Programmer,** Budge Studios **September 2021 - April 2023**

- Delivered performance-sensitive C# game logic in Unity with proprietary libraries
- Worked extensively with structured data (JSON, XML) for configuration and user saves
- Identified and reduced technical debt in a multi-year legacy project
- Migrated outdated dependencies to modernized architecture to improve maintainability
- Collaborated cross-functionally to ship features to millions of users with live updates

**Teaching Assistant (Video Game Programming),** Ontario Tech **September 2019 - April 2021**

- Mentored undergraduate students in C++, OpenGL, and Unity, debugging complex technical issues and reinforcing core programming and software design principles
- Led workshops on game development systems, graphics, and software architecture
- Provided structured feedback to improve code quality and technical understanding
- Supported course coordination, student management, and academic integrity processes

## SELECTED PROJECTS

**Echo / Echo+** – Master's Thesis Project for Games User Research **May 2019 - April 2021**

- Designed and built a C# tool to reconstruct and analyze recorded game session data
- Developed systems to process and visualize large gameplay datasets simultaneously
- Conducted structured evaluations and improved system architecture based on findings
- Resulted in multiple peer-reviewed publications at both conferences and journals

**Ubisoft NEXT Tower Defense** – C++ Gameplay Systems Challenge **March 2021**

- Designed and implemented a modular Entity Component System (ECS) architecture in C++
- Developed scalable gameplay systems including AI enemies, abilities, and wave spawning
- Structured systems to ensure extensibility, performance, and clean separation of concerns
- Delivered a complete playable game under competitive programming challenge constraints

**SuBViS** – Unreal Engine C++ Blueprint Extension (Research Fellowship) **May 2018 – April 2019**

- Created a C++ extension to UE4's Blueprint system to enable exploration of alternatives across both the node-level and graph-level, allowing developers to evaluate ideas quickly
- Modified engine-level systems and integrated functionality directly into the UE4 workflow
- Evaluated the system through user testing and presented published article at FDG 2019

**Bustle** – Game with Custom C++ and Modern OpenGL Engine **September 2016 – April 2017**

- Architected and implemented a custom C++ game engine with Modern OpenGL rendering
- Built custom data pipeline to import 3D Maya scenes to speed up level design iteration
- Implemented OBJ mesh loader with GPU vertex/index buffer management
- Wrote GLSL shaders for deferred lighting, shadow mapping, and post-processing
- Developed input abstraction layer over raw XInput for controller-driven gameplay

## SELECTED PUBLICATIONS

- **Echoing the Gameplay: Analyzing Gameplay from Recorded Data** (IJHCI)
- **SuBViS: Exploring Alternatives in Visual Programming for Games** (FDG 2019)
- **FRVRIT: A Tool for Full Body Virtual Reality Game Evaluation** (CHI 2019)

## EXTRACURRICULARS

- Halifax Indie Devs Play and Tell
- Hand Eye Society IDM Fund: Futures Forward 2022
- **Indie Game Jams:** TOJam, Ludum Dare, GMTK, GGJ, Indie Tales, Brackey's, OTU (**1st Place**)
- **Conferences:** HCII, CHI PLAY, MIGS, FDG, Game UX Summit, OIGS
- Member of Ontario Tech Game Programming Club and Game Dev Society