

# ADRIANO MAZZUCCO

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## PROFESSIONAL SUMMARY

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I am a Software Engineer passionate about developing video games and engines using C++ and C#. I have developed multiple projects using the Unity game engine which can be found on my portfolio website. Through this, I became extremely interested in the fundamentals of game engine architecture with ECS and have developed several engines both independently and as part of a team. Recently, I have been working on expanding my skill set by teaching myself how to work in Unreal 5 Engine.

## SKILLS

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**Programming Languages:** C++, C#/Unity, C, Unreal 5

**Software Architecture:** Entity Component System, Mixin Design Pattern

**Game AI:** Mini-Max, A\* Path-finding, Behavior Trees, Steering Behaviors

**Graphics:** OpenGL, HLSL, GLSL, SFML

**Soft Skills:** Motivated, Problem Solving, Teamwork, Creativity, Time Management

## ACHIEVEMENTS

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### 2nd Place Ubisoft Next programming competition

2023

- Implemented engine, with ECS architecture, over one month using C++
- Created 3D math library to create a 3D game using a 2D graphics API provided by Ubisoft
- Built a Bomberman inspired Game in one weekend

### Toronto Hydro Student award

2018/2019

- Awarded to the student group that created a web application that could be used by Toronto Hydro in a real life application

### Ryerson Capstone Design Project Excellence Award Gold

2019

- Awarded to best capstone project for Ryerson Engineering

## EDUCATION

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### Sheridan

Oakville, Canada

*Graduate Certificate, Game Development Advanced Programming* September 2022 - August 2023

- Game engine architecture
- Implemented Entity Component system architecture in C++
- Worked with Unity engine and C# to implement Gameplay, UI and AI
- A\* path-finding, Behavior trees, Mini-Max with pruning, Finite State Machines

### Toronto Metropolitan University

Toronto, Canada

*Bachelor of Engineering, Computer Engineering* September 2015 - June 2019

- Advanced Algorithms, Software Architecture, Image Processing
- Networking, Network Security
- Digital Systems Engineering, Database Systems, Embedded programming
- Linear Algebra, Calculus

## EXPERIENCE

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### Gameplay Programmer

May 2023 - August 2023

*Always Snacking Studios - Sheridan*

*Toronto, Canada*

- Working with a team to make a RTS game for our capstone project
- Implementing the Mixin design pattern to build a data-driven system to create modular gameplay features
- The Project can be found here: <https://always-snacking-studios.itch.io/the-big-vs-them-all>

### Data Analyst

May 2020 - August 2020

*Kubra*

*Toronto, Canada*

- Registered print jobs through proprietary Kubra software.
- Data validation of all registered print orders
- Made changes to code to resolve errors using C++ and visual basic

### Software Engineer

September 2018 - April 2019

*Ryerson University*

*Toronto, Canada*

- Developed a cloud based power-flow assessment tool as my capstone project
- Worked with JavaScript to create front end for power flow tool
- Published a technical document with IEEE: <https://ieeexplore.ieee.org/document/9025140>

### Software Engineer

September 2016 - December 2016

*Stock Render*

*Toronto, Canada*

- Work with startup team to develop stock processing website
- Developed JavaScript algorithms to analyze and organize data from a SQL database

### Office Assistant

July 2012 - August 2019

*Toronto Catholic District School-board*

*Toronto, Canada*

- Took student attendance, called parents of absent students
- Handled any issues that arose at the school

### Physics tutor

July 2012 - August 2019

*Private tutor*

*Toronto, Canada*

- Tutored high-school physics, helped students prepare for exams