

# Michael Szolowicz

[michaelszolowicz@gmail.com](mailto:michaelszolowicz@gmail.com)

(520) 221-5450

Portfolio: <http://michaelszolowicz.com/>

LinkedIn: <https://www.linkedin.com/in/michael-a-szolowicz/>

## Projects

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### Networked Physics-Driven Characters

May – August 2023.

Independent Unreal Engine 5 / C++ project.

- Implemented client side prediction in my pinball shooter game, separately from Unreal's built in solution.
- Built a physics character using simplified math that was better fit for my small, spherical pinball pawns than Unreal's character movement component.

### Splatton Clone

April 2023.

Independent Unity / C# Project.

- Developed a character controller with physics and multiple movement states.
- Used HLSL, render textures, and shader graphs to write, store, and display ink on the level.
- Created a system to read GPU data asynchronously, at an exposed frequency, so the character can react to the ink map while balancing accuracy and performance.

### Context Steering AI System

February - March 2023.

Independent Unreal Engine 5 / C++ project.

- Replaced a rigid AI actor with a more maintainable component-based system that uses simple vector math to produce movement input based on the immediate environment.

### Chain Chomp Enemy AI

2019.

Independent Unreal Engine 4 project.

- Created fluid enemy interactions using behavior trees, blackboards, nav mesh, and animation blueprints.
- Explored many aspects of game production by making my own 3D model, rig, animations, and particle systems.

## Work

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### Teaching Assistant

January 2023 – present.

California State University Chico.

- Mentors students on topics like constructing logical algorithms, fixing bugs, and using good code practice.

### Conference Associate

March 2023.

Game Developers Conference.

- Collaborated with the CA team to facilitate the conference and provide guests with an exceptional experience.

### Undergraduate Big Data and Cybersecurity Researcher

May – August 2022.

California State Polytechnic University Pomona.

- Defined procedures to generate heatmaps which quantify the accuracy of a neural network, contributions which will aid future researchers in identifying shortcomings and make effective changes.
- Improved code architecture and workflows, resulting in faster, more reliable data collection and model training.

## Education

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### BS; Computer Animation & Game Development

California State University Chico. December 2024.

### AS; Computer Science

Bakersfield College. May 2022.

## Skills

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**Technologies:** C++, C#, Python, Unreal Engine, Unity, HLSL

**Core Competencies:** Physics, AI, Network Programming, Animation States