

# Manoel McCadden

## Software Engineer and Audio Programmer

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## SKILLS

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**Programming Languages:** C/C++, Javascript; Familiar with C#, Assembly, Java, Lua, GLSL, R

**CS Topics:** Data Structures, Algorithms, Operating Systems, Computer Architecture, Interactive Sound Synthesis

**Graphics and Libraries:** FMOD, Dear ImGUI, JSON for Modern C++, GLM, GLFW; Familiar with Vulkan

**Tools and Environments:** C++ Custom Engine, UE5, Wwise, P4V, Git, NeoVim, Visual Studio, FL Studio, Reaper

**Coding Practices:** Code Reviews, Pair Programming, Unit Testing, Doxygen/Code Documentation, Technical Writing

**Audio Engineering:** Mixing, Vocal Recording, Instrument Recording, Live Event Setup/Teardown, Studio Setup

**Project Skills:** OpenGL, Shaders, Art and Audio Pipeline Development, Physics and Collisions, Serialization

## WORK EXPERIENCE

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### Game Project TA/Mentor

Redmond, WA

DigiPen GAM-200/250

Sep 2025 - Present

- Supporting 17 tech teams, with 3-to-6 members each, in audio, graphics, physics, serialization, and engine architecture as they develop an original game in a custom C/C++ game engine
- Providing direct mentorship for one of the custom engine tech teams through in-person and online support and guidance

### Sound Lab Assistant

Redmond, WA

DigiPen Sound Lab

Sep 2024 - Present

- Assisting in the setup, teardown, and mixing of 10+ live audio events, including concerts and public speakers, while always ensuring a high-quality listening experience.
- Managing mixing and recording for 5+ studio sessions between musicians and voice actors in a professional-grade studio

### Data Analytics/Music and Sound Design TA

Redmond, WA

DigiPen WANIC

Summer '23, '24, & '25

- Worked with a team of TAs to develop and deliver a new program to 70+ high school students, which introduced them to topics in data analytics such as plotting, research, and analysis through R and Excel
- Mentored 15 students of varying skill levels by managing attendance daily, grading weekly assignments, and individually working with each student to ensure they had the needed support for their development

## STUDENT PROJECTS

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### *Hyperfist*

Sep 2025 - Present

- Audio Programmer on an 18-person team, where we are creating a 3D fast-paced first-person melee combat game about delivering the most radical punch possible using Unreal Engine 5.4 and Wwise 2023
- Showcased at Seattle Indies Expo and Seattle Indies SLICE
- Implementing UI/VFX synchronization with music and SFX, and dynamic audio interactions with our charging system

### *Cretaceous Clash*

Sep 2024 - Aug 2025

- Programmer/Designer and Tech Lead on a 5-person team where we created a 2D turn-based action RPG in a C++ custom engine with task-tracking, weekly code reviews, and semi-weekly team meetings
- Engineered an FMOD-powered audio system with features such as BPM-based movement synchronization, auto-ducking, and action-triggered audio transition
- Built an OpenGL and GLFW-based graphics system using GLM, GLSL shaders, batch rendering, and Z-Depth sorting

### *Nomentum*

Oct 2023 - Dec 2023

- Designed and implemented a 2D momentum-based platforming game with a 3-person team in C
- Developed a modular grid-based level building system, streamlining the creation of our 10+ levels
- Implemented and maintained a physics system to handle input-based acceleration, gravity, and collision resolution

## EDUCATION

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### DigiPen Institute of Technology

Redmond, WA

Bachelor of Science in Computer Science and Digital Audio

Aug 2023 - May 2027

Dean's List 2024-2025