# Manoel McCadden

## Software Engineer and Audio Programmer

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## SKILLS

**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, Trello, Git/Github, 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

**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

*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 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

**DigiPen Institute of Technology**                                                        Redmond, WA
Bachelor of Science in Computer Science and Digital Audio                        Aug 2023 - May 2027
Dean's List 2024-2025