

# Manoel McCadden

## Audio Programmer

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## SKILLS

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**Programming Languages:** C/C++ (Memory Mgmt, Multithreading), Javascript; Familiar w/ Assembly, GLSL, R, C#, Java  
**Computer Science:** DSP, Real-Time Sound Synthesis, Computational Acoustics, Data Structures, Algorithms, OS, Architecture  
**Libraries & APIs:** OpenGL, GLFW, GLM, Dear ImGui, JSON for Modern C++; Familiar with Vulkan  
**Development Tools:** P4V, Git, Doxygen, Make, Visual Studio, NeoVim  
**Development Practices:** Code Reviews, Unit Testing, Debugging, Profiling, Code Documentation, Technical Writing  
**Game & Audio Software:** Wwise, FMOD, UE5, C++ Custom Engine, Art & Audio Pipeline Development  
**Audio Engineering:** Reaper, Mixing, Vocal & Instrument Recording, Live Event & Studio Setup & Teardown

## PROJECTS

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- Hyperfist** Sep 2025 - Present
- Technical Sound Designer 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
- Audio and Graphics Programmer, Sound Designer, and Technical 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

## WORK EXPERIENCE

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- Game Project TA/Mentor** Redmond, WA  
DigiPen Institute of Technology 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 Institute of Technology Sep 2024 - Present
- Development of an automated room reservation tool to simplify the process for both users and the sound lab team
  - Assisting students in debugging issues in both blueprint and C++ Wwise middleware implementation and integration with Unreal Engine 5
- Data Analytics/Music and Sound Design TA** Redmond, WA  
DigiPen Institute of Technology (WANIC Program) 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

## 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