

Manoel McCadden

Software Engineer and Audio Programmer

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EDUCATION

DigiPen Institute of Technology

Bachelor of Science in Computer Science and Digital Audio
Dean's List 2024-2025

Redmond, WA

Expected May 2027

WORK EXPERIENCE

DigiPen Sound Lab

Sound Lab Assistant

Redmond, WA

Sep 2024 - Present

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

DigiPen WANIC

Data Analytics/Music and Sound Design TA

Redmond, WA

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

Cretaceous Clash

Sep 2024 - Present

- 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

Rogue Waters

Jan 2024 - May 2024

- Created a procedurally generated 2D pirate-themed dungeon crawler with a 5-person team in C
- Integrated and maintained an ECS system to handle 10+ systems and their operations, including graphics, audio, and scene

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

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, Trello, Git/Github, Visual Studio, VS Code, NeoVim, 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 and Deserialization

EXTRACURRICULAR

DigiPen Jazz Dragonz

Baritone Saxophonist

Redmond, WA

Aug 2023 – Present

- Arranged and maintained 2 songs for the 12-person big band
- Participated and performed at 4 annual public concerts