William Bender
Junior BS candidate in Computer Science and
Real Time Interactive Simulation
DigiPen Institute of Technology

willbender@hotmail.com
www.linkedin.com/in/will-bender
electrp.com
(206) 954 7515 - Seattle, WA

Programmer with experience leading groups in complex projects, specializing in Graphics and Game Engines. Junior at DigiPen Institute of Technology, majoring in Real-time Interactive Simulation.

- C++ (STL)
- Rust
- Java
- Git + SVN
- Vulkan
- OpenGL
- GLSL
- Linux
- Windows

B.S. Candidate in Computer Science and Real-Time Interactive Simulation
DigiPen Institute of Technology
September 2022 - June 2026
Running Start (CS focus)
Edmonds College
September 2020 - June 2022

Relevant Courses:

- Advanced C++
- DigiPen Game Project Courses (100-300)
- Operating Systems
- Java 1-3
- Linear Algebra
- Algorithm Analysis
- Data Structures
- Vulkan and Real-Time Ray Tracing
- Vector Calculus (1-4)
- Advanced Computer Graphics
- 3D Game Project (Unreal Engine)
- Communication
- Physics 250 (waves, optics, thermodynamics)
- Low Level Programming
- Game Networking

Relevant Projects:

Core ECS / Engine Developer – *EC&WW, Digipen GAM300-350* – September 2024 → Present
- Developing a high-performance custom C++20/C# 3D engine with a team of 7 programmers, integrating the ECS (Entity Component System) pattern while maintaining an intuitive interface.
- Designed archetyped ECS data structures to efficiently store and process large amounts of data, providing easy to use tools for both engine programmers and users.
- Implemented Entity Relations, an ECS first method for connecting entities to one another.
- Developing the data pipeline for streaming and processing audio in real-time.

Tech Lead / Engine Programmer – *Shatterlight, DigiPen GAM200-250* – September 2023 → August 2024
- Tech Lead for a team of 6 programmers and 4 game designers developing *Dine n' Bash*, a strategy and time management game published to the Steam platform.
- Led the development and implementation of a custom 2D C++ game engine from scratch using minimal low-level libraries (GLFW, FMOD Core, OpenGL, Dear ImGUI).
- Personally designed and built a templated ECS to manage entities and their components, including a scene manager and deserialization system
- Implemented a specialized and performant 2d instanced renderer that allowed for 100k+ sprites to be drawn at a time while maintaining performance.

Game Programmer – *Trainwreck, DigiPen GAM150* January 2023 → April 2023
- Created a 2D rhythm game in C with a team of 5 other programmers. Focused on serialization, gameplay programming, and graphics systems.

Game Programmer – *3D Unreal Engine Fighting Game, Edmonds Col. CS285* – 2022
- Worked with a team of 4 to develop a top-down 3D fighting game using Unreal Engine.
- Used blueprints to develop complex game logic and systems.

Work History:

CS 315 (Low Level Programming) TA – January 2025 → Present
- Aiding in curriculum development, specifically for a project to teach students the ECS pattern, and how to implement games and engines in a more cache friendly way.