

Landen Barker

Software & Systems Developer

Education

Landen Barker

landenbarker.com

github.com/LandenTy

Texas Wesleyan University / B.S in Computer Sciences, Minor in Business

August 2026 - Present, Fort Worth, TX

Completing my A.S. while beginning coursework toward a B.S. in Computer Science, building on 51 credits earned through early college.

Steele Early College High School / High School Diploma

August 2023 - May 2026, Roanoke, TX

Early college program combining high school with college coursework. Earned 51 of 60 credits toward an Associate of Science through Tarrant County College before graduating.

Skills

C, C++, MIPS Assembly, Python, DirectX, OpenGL, Vulkan, Git, Visual Studio, Hardware Troubleshooting & Diagnostics, Docker

Projects

Lambda Game Engine / C++17, Assembly, OpenGL, Vulkan, Lua

JULY 2024 - PRESENT

- Built a cross-platform game engine and editor with a pluggable rendering hardware interface (RHI), with OpenGL and Vulkan backends loaded at runtime as DLLs.
- Implemented PBR rendering, clustered lighting, cascaded shadow maps, and screen-space global illumination.
- Designed a sparse-set ECS with generational entity IDs, a stable C ABI plugin system, and Lua scripting.
- Built a custom video playback module supporting MP4/MOV/AVI demuxing with H.264, HEVC, and MP3 decoding.
- Implemented rendering, video playback, materials, shaders, lighting, audio, GUI, and Lua 5.4 scripting.

Lambda PS2 Runtime / C, VU1 Assembly, Python, PS2SDK

JULY 2024 - JANUARY 2025

- Ported the Lambda engine to PlayStation 2 with a full VU1 rendering pipeline, manual GIF DMA texture uploads, mipmapping, and trilinear filtering.
- Created VUSL, a custom shader language, and a C++ compiler that turns it into VU1 microcode.
- Built an asset pipeline that converts glTF models, skeletal animation, and HDR skyboxes into custom binary formats
- Debugged hardware-level DMA and GS transfer issues under real memory and bandwidth constraints.

Jam N' Jelly: PS2 Media Client / C, Python, CMake, FFmpeg

APRIL 2026 - AUGUST 2026

- Built on Lambda Runtime Engine
- Built a Jellyfin streaming client for PS2 with LVID, a custom video codec using SIMD, pthreads, and LZ4-HC compression.
- Wrote a UDP networking library from scratch, plus a Python proxy that bridges the PS2 to HTTP servers.
- Set up a CMake cross-compilation build system and fixed a reference-frame corruption bug in the encoder.

Desmos 8-Bit CPU / Computer Architecture, ISA Design

OCTOBER 2026 - PRESENT

- Designed and implemented an 8-bit CPU in Desmos with a custom instruction set architecture, RAM, and a basic GPU with banked drawing modes.
- Built a full assembler that translates programs into machine code for the custom ISA.

Experience

Geek Squad / Consultant Agent

JULY 2026 - PRESENT, Fort Worth, TX

Diagnose and repair hardware and software issues across Windows, macOS, and Apple devices using Apple GSX diagnostics. Handle component troubleshooting, data recovery, and system restores while explaining technical problems clearly to customers.

Self Employed / Freelance Game Developer

MARCH 2020 - MAY 2021, Fort Worth, TX

Founded a freelance game development business at age 12, offering custom Unity game development. Managed client communication, project scope, and delivery independently.

Awards

Panduit-Sponsored Award, EXPO 2025: Presented my custom C++ DirectX 11 game engine.

Certifications

Microsoft Office Specialist: Excel Associate, Microsoft

MAY 2024

Microsoft Office Specialist: PowerPoint, Microsoft

NOVEMBER 2024

Professional Communications, Pearson

MAY 2025

Adobe Certified Professional in Photoshop, Adobe

FEBRUARY 2026