

Liam McKenna

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SUMMARY

Recently graduated software engineer specializing in video game development, with demonstrable proficiency in C++, C#, GLSL, and Java. Expertise in designing robust and streamlined software systems, formed through extensive development experience in Unity, Unreal Engine, and self-authored 3D application programming.

TECHNICAL SKILLS

Languages: C++, C#, GLSL, Lua, Java

Tools & Frameworks: Unreal Engine, Unity, OpenGL, DirectX, Blender, Visual Studio, Git, Agile/Scrum

Specialized Knowledge: Graphics Programming, Game Engine Architecture Design, 3D Modeling ([Portfolio](#))

EDUCATION

Master of Science (M.S.), Computer Science Spring 2026
University of Florida - 3.90 GPA *Gainesville, FL*

Bachelor of Science (B.S.), Computer Science Summer 2024
University of Florida - Cum Laude *Gainesville, FL*

EXPERIENCE

Academic Researcher Aug 2025 - Dec 2025
Kyoto University — Project AirSim *Kyoto, JP* | [GitHub](#)

- Modified Unreal Engine's C++ source code to develop a fork used for computer vision research
- Created an end-to-end UI to automate configuration systems and greatly enhance user accessibility
- Published ~2,000 LOC production-grade code to a popular open-source repository with an active community

Academic Researcher Jan 2025 - Aug 2025
University of Florida SurfLab *Gainesville, FL* | [GitHub](#)

- Engineered performant and novel pixel-accurate shadow casting of analog NURBS surfaces
- Initiated ongoing research into experimental techniques for producing global illumination in real-time environments
- Developed efficient GPU data transfer tools using GLSL and C++ for debugging and memory/performance analysis

Software Development Intern May 2023 - Aug 2023
United Wholesale Mortgage *Pontiac, MI*

- Delivered production code within an agile development cycle by operating under the scrum framework
- Developed an integrated software stability inspector with C# for end-to-end use in proprietary software

PROJECTS

Topposition | Procedurally Generated Game Built on Custom 2D Engine Aug 2023 - May 2026
C++, SDL3 [Presentation](#) | [Play Game](#)

- Constructed a 2D game engine in C++ from the ground up only using SDL3 for rendering
- Developed a feature-complete strategy game to utilize the engine featuring a procedurally generated terrain system
- Presented a lecture to 40 members of UF's game development club on the lessons learned throughout development

PowerLine | Original Minecraft Multiplayer Minigame Aug 2025 - Sep 2025
Java [GitHub](#) | [Play Game](#)

- Led the full development cycle of a novel multiplayer game mode for Minecraft through custom plugin programming
- Wrote ~3,800 LOC over a two-week sprint to fully implement the gameplay systems required for the project
- Achieved over 1,000 plays and publication on the popular Minecraft minigame hosting platform, StickyPiston

APGP | Multipurpose Custom 3D Rendering Environment Jul 2024 - Aug 2025
C++, OpenGL, GLSL, Lua [GitHub](#)

- Created a highly modular real-time 3D application in C++ using the OpenGL graphics API
- Implemented an Entity-Component System (ECS), Scene Graph, and support for Physically-Based Rendering (PBR)
- Engineered fully dynamic Lua script insertion, asset management, and scene generation at runtime

Itch.io Showcase | Extended Game Development Portfolio Aug 2022 - May 2023
Unity, C#, Batch [Portfolio](#)

- Developed several Unity experiences utilizing C# scripting which cumulated over 500 downloads
- Achieved multiple top placements and academic recognition in game jams, hackathons, and class projects
- Engaged in regular cross-functional collaboration with other artists, engineers, and creatives