Liam McKenna

work@liamdouglas.com | (321) 607-2168 | liamdouglas.com | LinkedIn | GitHub

Summary

Master's candidate in Computer Science specializing in computer graphics and real-time 3D application development, with proficiency in C++, OpenGL, and 3D modeling in Blender and Maya. Expertise in designing robust and efficient software systems, formed through extensive game development experience in Unity and self-authored 3D application development. Eager to obtain internship experience in the development of production-grade computer graphics solutions.

Education

Master of Science (M.S.), Computer Science — Expected Spring 2026
University of Florida — *Gainesville, FL*

Bachelor of Science (B.S.), Computer Science — Summer 2024
University of Florida — *Gainesville, FL*
GPA: 3.58/4.00 (Cum Laude), Minor: Digital Arts and Sciences

Experience

Academic Researcher — Jan 2025 - Present
University of Florida SurfLab — *Gainesville, FL*
- Investigated novel approaches to producing global illumination in a real-time OpenGL environment
- Developed efficient two-way GPU data transfer tools using GLSL and C++ for resource and performance analysis

Software Development Intern — Summer 2023
United Wholesale Mortgage — *Pontiac, MI*
- Developed an integrated software stability inspector with C# for end-to-end use in proprietary software
- Produced new relational database systems with SQL scripting to store internal bug reports and network failures
- Utilized scrum methodology to restructure a monolithic application into microservices via Swagger and Postman

Projects

APGP | Multipurpose Custom 3D Rendering Environment — Fall 2024 - Present
C++, OpenGL, GLSL — GitHub
- Created a highly modular real-time 3D application in C++ using the OpenGL graphics API
- Wrote complex GLSL shaders to achieve Physically Based Rendering (PBR) material and shading integration
- Engineered entirely dynamic script insertion, asset retrieval, and scene generation, all supported at runtime

SteamQuack | Personalized Game Recommendation Website — Summer 2024
HTML, JavaScript, CSS — steamquack.com
- Released an interactive and engaging user-focused game recommendation platform for Steam users
- Utilized the Steam Web API to dynamically acquire the user's profile data and playtime information
- Integrated parameter weight sliders allowing the user to easily tailor the algorithm to fit their purchase priorities

Topposition | Procedurally Generated Game Built on Custom 2D Engine — Fall 2023
C++, SFML — GitHub | Presentation
- Constructed a 2D game engine in C++ from the ground up only using SFML for rendering
- Developed a feature-complete strategy game to utilize the engine featuring a procedurally generated terrain system
- Presented a guest lecture to UF's game development club, DevLUp, on the lessons I learned throughout development

Itch.io Showcase | Extended Game Development Portfolio — Fall 2022 - Present
Unity, C#, Batch — Portfolio
- Attained extensive experience in working with Unity throughout the development of several unique projects
- Cultivated robust expertise in robust and efficient C# scripting over the course of multiple years
- Achieved multiple top placements and academic recognition in game jams, hackathons, and class projects

Technical Skills

Languages: C++, C#, GLSL, Lua, JavaScript, SQL, Batch

Tools & Frameworks: OpenGL, Unity, Blender, Maya, HTML/CSS, Postman, Oracle

Specialized Knowledge: Graphics Programming, 3D Modeling (Portfolio), Software Architecture Design