Emmy Voita

Peoria, Arizona • 623-312-8962 • emmyvoita390@gmail.com
Portfolio • Github• Violet Rush Steam Page • Violet Rush Demo

Summary

Gameplay and graphics programmer experienced in developing gameplay systems in Unity and Unreal Engine, and custom tools and real-time rendering pipelines in Unity and OpenGL. Currently developing Violet Rush, a roguelike rhythm game featuring a custom level editor and reusable gameplay systems.

Project Experience

Independent Game Development

Violet Rush (Personal Project) **2025-Present**

- Developed a playable demo of a roguelike rhythm arcade game with beat-based gameplay and synergistic upgrade builds
- Built reusable upgrade systems that enabled creating multiple upgrades in a day through configurable data and assets.
- Built a custom level editor with timeline playback and event-editing tools, enabling authoring multiple levels per day using existing gameplay mechanics.
- Created social media content and organized community playtests, using player feedback to improve gameplay and balance

Gameplay Programming

Unreal Engine Original Character (Personal Project) **2025**

- Developed a custom Unreal Engine character controller using Blueprints and C++, implementing movement physics, collision detection, dashing, sliding, and ledge grabbing; modeled, rigged, and animated an original character in Blender
- Created a clone mechanic that records and fully reproduces player movement and animations

Garden Recall (Academic Project) **2024**

- Developed an individual Unity mobile memory game across eight Agile sprints, implementing gameplay and UI flows while participating in sprint standups and helping teammates resolve development challenges
- Collaborated with teammates to integrate four individual Unity games into a research application evaluating AI effectiveness in software development through code quality and response quality, including clarity of explanations

Galactic Heist (Academic Project) **2024**

- Collaborated with a three person multidisciplinary team to develop a roguelike platformer prototype in Unity across four development sprints; created 3D models, animations, custom shaders, and a character controller.
- Created a Game Design Document and board game prototype to refine gameplay, difficulty, and rewards.

Graphics Programming

Real-Time Physically-Based Sky & Cloud Rendering Pipeline (Personal Project) **2022-2025**

- Designed and implemented a real-time atmospheric rendering tool in Unity, supporting customizable physically based skies with five configurable rendering parameters and 19 preset options to accommodate different hardware capabilities.
- Researched and implemented graphics techniques from technical papers and references, including developing a TAAU-based compositing pipeline to upscale rendering data and improve visual fidelity under dynamic lighting conditions while maintaining 90 FPS at 1920×1080 on an NVIDIA GTX 1070 Ti under demanding conditions at a medium quality preset

Education

Bachelor of Science in Computer Science with an Emphasis in Game and Simulation **2024**

Grand Canyon University

Work Experience

SAC Holding Corporation **2025 - Present**

- Improved the organization and accuracy of company records by centralizing business documents and identifying discrepancies in property records

Skills

Programming languages: C#, HLSL, C++, GLSL
Game Engines: Unity, Unreal Engine
Graphics & Rendering: OpenGL, Deferred Rendering, G-buffer, SSAO, Parallax Mapping, TAAU, Physically Based Rendering, Volumetrics
Gameplay Systems: Character Controllers, Movement Physics, Gameplay Systems, Level Editor Tools.
Development Tools: Blender, Visual Studio, Jira, RenderDoc