Kathryn Witten

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SKILLS

Software: Unity (6 years), GodotEngine (4 years), Unreal (<1 year), Visual Studio, Git, CMake, Trello, Blender, Linux

Programming Languages: C++ (5 years), C# (6 years), Rust (2 years), Python (8 years), x86 Assembly (<1 year)

Gameplay Programming: Designed and implemented mechanics using various engines like Unity and Godot, in C++ and C#, including a physics-based third-person movement system with wall-jumping and rope-swinging. Worked on several networked multiplayer games.

Engine & Graphics Programming: 3D cross-platform C++ engine using Vulkan and SDL. Deferred PBR renderer, normal mapping, order-independent transparency, and shadow mapping. Efficient ECS implementation using generational indices. Debugged and worked on the Godot game engine codebase (C++). Experience developing GLSL, CG shaders and shader graphs in game engines like Unity and Godot, including an efficient grass shader that sways in the wind and is deformed by objects.

Tools Programming: Created and released a game engine plugin to improve the workflow of writing C++ gameplay scripts. Features an intuitive interface for managing classes and compiling the project from inside the game engine. Developed an efficient tool to place large collections of objects such as trees into a scene.

Misc: Have experience developing cross-platform C++ applications with statically-linked in-tree dependencies. Experience working with teams both fairly large (20+ members) and small.

GAME PROJECT EXPERIENCE

Planet Initium   *Unity, C#*
Networking Engineer   2019-2020
  Large student game project I joined for 6 months to convert the project from a single-player to a networked multiplayer game. I also improved programming team workflows with proper source control strategies, code reviews, and project organization improvements. Learned and worked in a large, unfamiliar codebase.

Little Monster Story   *Godot*
Main Programmer (Gameplay, Physics, Tools, UI), Producer   2020-2021
  Physics-based 3D platformer. 6 month long 3 person senior game project. I developed a physics-based movement system with wall-jumping and rope-swinging, a robust path-based moving platform system, an extensive settings menu, a saving and loading system, and an efficient grass shader.

EDUCATION

University of California, Irvine   **Irvine, CA**
Candidate for Bachelor's in Computer Game Science   Class of 2021

LEADERSHIP EXPERIENCES

Video Game Development Club   **Irvine, CA**
Programming Department Officer   Spring 2018-Spring 2021
  I helped lead a large (200+ student) game development club as a programmer. I assisted students in all aspects of game development with a focus on programming and helped students in computer science related coursework. Held weekly workshops covering game development topics such as developing in the Unity and Godot game engines, language-specific workshops for C#, Rust, and C++. Assisted various student game projects with programming and source control (git).

Programming Department Director   Spring 2019-Spring 2020
  As department director, I participated in the club administration decision process, helped new officers, and interviewed and brought on new officers for the programming department.

MISC

References available upon request.

I love learning and broadening my horizons. I'm always looking for better, faster, and simpler solutions to problems, and I'm always excited to try and understand things I'm unfamiliar with.

Hobbies: Playing and composing music, 3D art, animation, writing, and programming retro computers.